

## MISCELLANEOUS INDUSTRIES

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## AGRICULTURAL IMPLEMENTS.

### GENERAL STATISTICS.

**General character of the industry.**—The agricultural implements manufactured by the establishments here considered may be subdivided into four principal classes: (1) Planters and seeders, (2) plows and cultivators, (3) harvesting implements, and (4) seed separators. In many establishments, however, minor or subsidiary products are manufactured which can not properly be assigned to any of the four main groups, but the value of which is necessarily included in the total value of the products of the factory reporting. In 1919 the total value of these subsidiary or minor products was \$132,605,560, exclusive of repair work, such products including hand tools, engines, tractors, automobiles, wagons, and other miscellaneous products.

Agricultural implements were also made by establishments engaged primarily in the manufacture of other products to the value of \$14,938,340 in 1919 and \$4,033,797 in 1914. The value of such manufactures, however, is not included in the total value of products shown for the agricultural implement industry.

**Importance and growth of the industry.**—Table 1 summarizes the statistics for each census since 1879, with percentages of increase.

With few exceptions increases are noticeable at each succeeding census. The large increases, however, from 1914 to 1919, in salaries and wages, cost of materials, and value of products are due largely to the general rise of prices and wages following the World War, and do not, therefore, fairly measure the growth of the industry for that period. A truer index of the conditions is found in the increases in the average number of wage earners and primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes."

**States, ranked by value of products.**—Illinois, as shown by Table 2, was preeminently the leading state in the manufacture of agricultural implements in 1919, a condition which has existed for the past several censuses. In 1919 this state reported 41.5 per cent of the total number of wage earners and 42.1 per cent of the total value of products. Wisconsin, second in importance, contributed only 9.6 per cent and 14.3 per cent, respectively, of these two items. In this connection it should be explained that a considerable proportion of the total value of products for Wisconsin represents the manufacture of automobiles and if the ranking of the states were made on the basis of the value of products actually pertaining to the agri-

cultural implement industry, both Indiana and Ohio would take precedence over Wisconsin. Although a majority of the states were engaged in the manufacture of agricultural implements to a limited extent, the industry has become centralized in Illinois, Wisconsin, Indiana, Ohio, New York, Michigan, and California, named in the order of their rank by value of products. Combined these seven states produced 89 per cent of the total value of products for the industry in 1919.

**Persons engaged in the industry.**—The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." The classification, by sex, for 1919 was reported separately, but for 1914 and 1909 was obtained in the same manner as the distribution by age. Figures in detail will be found in Table 15.

**Wage earners, by months.**—The statistics for wage earners in Table 4 show the regularity of employment, or the reverse, in accordance with existing industrial conditions during the several census years, together with the percentage which the number reported for each of the several months forms of the number reported for the maximum month.

**Wage earners, by months, on the 15th day of the month, or nearest representative day.**—As shown by Table 5, the number of wage earners employed in the industry month by month ranged from a maximum of 59,748 in February to a minimum of 49,483 in August, the minimum number being equivalent to 82.8 per cent of the maximum. Figures are given for the states separately, while for the United States the number of males and of females is also shown.

**Prevailing hours of labor.**—Table 6 shows a marked shortening of the working day for the industry since 1914. In that year only 14.6 per cent of the wage earners were reported as employed less than 54 hours per week as against 56.2 per cent in 1919. In 1914 the "60" and "Over 60" groups constituted 23.8 per cent of the total wage earners, as compared with 4.3 per cent in 1919.

**Size of establishments, by average number of wage earners.**—Table 7 discloses the significant fact that 218 establishments, or 41.8 per cent of the total number for the industry, employed fewer than 6 wage earners each, while only 393, or seven-tenths of 1 per cent of the total number of wage earners, were em-

ployed therein, showing the predominance of the small establishments based upon the average number of wage earners. On the other hand, the classes "501 to 1,000" and "Over 1,000" wage earners, comprising 23 establishments, employed 32,870 wage earners, or 60.5 per cent of the total average number.

**Size of establishments, by value of products.**—At the censuses of 1909 and 1914 establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into "\$100,000 to \$500,000," and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been compiled, however, from the returns for 1914. Table 8, therefore, gives combined figures for these two groups for all items for 1909, and for the average number of wage earners and value added by manufacture for 1914. The statistics in this table show the degree of concentration of production in large establishments. In 1919, the groups "\$500,000 to \$1,000,000" and "\$1,000,000 and over" included 87 establishments, or 16.7 per cent of the total number for the industry, employed 47,013 wage earners, or 86.5 per cent of the total average number, and reported products to the value of \$273,232,857, or 89.6 per cent of the total value of products.

**Character of ownership.**—Table 9 emphasizes the predominance of the corporate form of ownership. Corporations owned 59.1 per cent of the total number

of establishments for the industry in 1919, employed 97.5 per cent of the total average number of wage earners, and reported 97.5 per cent of the value of products. During the five-year period 1914 to 1919 the average number of wage earners in corporations increased 6,796, or 14.7 per cent, and the value of products \$139,811,574, or 88.8 per cent.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 10, there was an increase in the total horsepower for the industry of 6,821 horsepower, or 5.6 per cent, due wholly to an increase of 16,906 horsepower, or 54.6 per cent, in rented power, since owned power decreased 10,085 horsepower, or 11.1 per cent, during this five-year period.

**Fuel consumed.**—Table 11 shows the principal kinds of fuel used for the industry in 1919 and 1914, with per cent of increase, and also gives separately the amounts consumed in states requiring considerable quantities of fuel for such manufactures. Of the totals for the three chief kinds of fuel used in connection with the industry in 1919, Illinois reported 52.5 per cent of the bituminous coal, 37.4 per cent of the coke, and 47.9 per cent of the fuel oils. Anthracite coal is naturally consumed in the Eastern states, and three states—New Jersey, New York, and Pennsylvania—combined, reported 92 per cent of this kind of coal used by the industry in 1919.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. <sup>1</sup>					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	521	601	640	648	715	910	1,043	-13.3	-6.1	-1.2	-0.4	-21.4	-53.2
Persons engaged.....	67,177	58,118	60,220	55,089	57,254	(2)	(2)	15.6	-3.5	9.3	-3.8	.....	.....
Proprietors and firm members.....	321	431	405	496	826	(2)	(2)	-25.5	-7.3	-6.2	-20.8	.....	.....
Salaried employees.....	12,488	9,228	9,213	7,189	10,046	(2)	(2)	35.3	0.2	25.0	-28.3	.....	.....
Wage earners (average number).....	54,368	48,450	60,551	47,894	46,582	38,827	39,580	12.2	-4.1	6.7	1.7	(3)	(3)
Primary horsepower.....	128,249	121,428	100,601	89,738	70,646	50,395	44,731	5.6	20.7	12.1	27.0	40.2	12.7
Capital.....	\$366,062,052	\$338,531,673	\$254,281,086	\$196,740,700	\$157,707,951	\$145,313,997	\$62,103,668	8.4	32.1	30.3	24.8	8.5	154.0
Salaries and wages.....	88,630,177	47,603,790	38,748,613	32,575,206	30,814,080	21,811,761	15,350,610	88.2	22.9	19.0	5.7	41.3	42.0
Salaries.....	21,925,743	13,010,465	10,139,998	7,572,046	8,363,210	(2)	(2)	68.5	28.3	33.9	-9.5	.....	.....
Wages.....	66,704,434	34,593,325	28,608,615	25,002,650	22,450,880	(2)	(2)	92.8	20.9	14.4	11.4	.....	.....
Paid for contract work.....	113,421	104,488	93,632	133,420	138,146	(2)	(2)	8.5	11.6	-20.8	-3.4	.....	.....
Rent and taxes.....	12,174,851	1,714,209	1,117,440	4,795,949	5,597,679	(2)	(2)	610.2	53.4	40.4	33.2	.....	.....
Cost of materials.....	144,571,948	73,508,645	60,300,519	48,281,406	43,944,028	31,803,265	31,531,170	98.7	21.9	24.9	9.9	30.1	0.2
Value of products.....	304,961,265	164,086,835	146,329,268	112,007,344	101,207,428	81,271,051	68,640,486	85.9	12.1	30.6	10.7	24.5	18.4
Value added by manufacture <sup>2</sup> .....	160,380,322	90,578,190	86,022,749	63,725,938	57,202,900	49,668,388	37,109,316	77.1	5.3	35.0	11.3	15.3	33.8

<sup>1</sup> A minus sign (−) denotes decrease.  
<sup>2</sup> Figures not available.

<sup>3</sup> Figures not strictly comparable.  
<sup>4</sup> Exclusive of internal revenue.

<sup>5</sup> Value of products less cost of materials.

## MANUFACTURES.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of estab- lish- ments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribu- tion.	Rank.	Amount (ex- pressed in thousands).	Per cent distribu- tion.	Rank.	Amount (ex- pressed in thousands).	Per cent distribu- tion.	Rank.
					\$304,961	100.0		\$160,380	100.0	
United States.....	521	54,368	100.0	.....	\$304,961	100.0	.....	\$160,380	100.0	.....
Illinois.....	68	22,548	41.5	1	128,285	42.1	1	63,125	39.4	1
Wisconsin.....	34	5,237	9.6	3	43,623	14.3	2	25,133	15.7	2
Indiana.....	29	5,533	10.2	2	31,824	10.4	3	19,209	12.0	3
Ohio.....	46	4,931	9.1	4	26,556	8.7	4	13,589	8.5	4
New York.....	40	4,020	8.5	5	20,421	6.7	5	10,482	6.5	5
Michigan.....	23	2,708	5.0	6	11,091	3.6	6	6,043	3.8	6
California.....	34	1,573	2.9	7	9,490	3.1	7	5,773	3.6	7
Iowa.....	26	906	1.7	9	5,959	2.0	8	3,137	2.0	8
Pennsylvania.....	27	1,371	2.5	8	5,536	1.8	9	2,940	1.8	9
Kentucky.....	8	773	1.4	11	4,407	1.4	10	2,127	1.3	10
Georgia.....	13	892	1.6	10	3,476	1.1	11	1,603	1.0	11
Tennessee.....	14	727	1.3	12	2,516	0.8	12	1,279	0.8	12
Minnesota.....	16	501	0.9	13	2,341	0.8	13	986	0.6	13
Missouri.....	14	254	0.5	14	1,457	0.5	14	656	0.4	15
New Jersey.....	10	219	0.4	18	1,365	0.4	15	665	0.4	14
Virginia.....	14	239	0.4	16	926	0.3	16	557	0.3	16
Washington.....	9	146	0.3	19	913	0.3	17	487	0.3	17
North Carolina.....	17	230	0.4	17	877	0.3	18	557	0.3	18
Kansas.....	14	120	0.2	20	770	0.3	19	317	0.2	18
Vermont.....	10	241	0.5	15	601	0.2	21	310	0.2	20
Nebraska.....	8	66	0.1	23	350	0.1	23	143	0.1	23
Colorado.....	5	19	( <sup>1</sup> )	27	122	( <sup>1</sup> )	27	64	( <sup>1</sup> )	28
All other states.....	42	494	0.9	.....	2,055	0.7	.....	1,162	0.7	.....

<sup>1</sup> Less than one-tenth of 1 per cent.

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Cen- sus year.	PER CENT OF TOTAL.			CLASS.	Cen- sus year.	PER CENT OF TOTAL.						
		Male.		Female.			Male.		Female.				
		Total.	Male.	Female.			Total.	Male.	Female.				
All classes.....	1919	67,177	63,781	3,396	94.9	5.1	Clerks and other subordinate salaried employees.	1919	9,022	7,276	2,346	75.6	24.4
	1914	58,118	56,400	1,718	97.0	3.0		1914	7,572	6,884	1,188	84.3	15.7
	1909	60,228	58,617	1,712	97.2	2.8		1909	7,189	6,137	1,052	85.4	14.6
Proprietors and officials.....	1919	3,187	3,130	57	98.2	1.8	Wage earners (average number).....	1919	54,368	53,375	903	98.2	1.8
	1914	2,087	2,050	37	98.2	1.8		1914	48,459	47,066	493	99.0	1.0
	1909	2,489	2,445	44	98.2	1.8		1909	50,551	49,935	616	98.8	1.2
Proprietors and firm members.....	1919	321	298	23	92.8	7.2	16 years of age and over.....	1919	54,314	53,322	992	98.2	1.8
	1914	431	409	22	94.9	5.1		1914	45,377	47,884	403	99.0	1.0
	1909	405	448	17	96.3	3.7		1909	50,345	49,730	616	98.8	1.2
Salaried officers of corporations.....	1910	587	565	22	96.3	3.7	Under 16 years of age.....	1919	54	53	1	98.1	1.9
	1914	552	540	12	97.8	2.2		1914	82	82	.....	100.0	.....
	1909	589	564	5	99.1	0.9		1909	206	205	1	99.5	0.5
Superintendents and managers.....	1919	2,279	2,267	12	99.5	0.5							
	1914	1,104	1,101	3	99.7	0.3							
	1909	1,455	1,433	22	98.5	1.5							

TABLE 4.—WAGE EARNERS, BY MONTHS: 1919, 1914, AND 1909.

MONTH.	NUMBER. <sup>1</sup>			PER CENT OF MAXIMUM.			MONTH.	NUMBER. <sup>1</sup>			PER CENT OF MAXIMUM.		
	1919	1914	1909	1919	1914	1909		1919	1914	1909	1919	1914	1909
January.....	57,928	61,746	51,540	97.0	99.8	92.9	July.....	52,900	45,169	45,027	88.5	73.0	81.2
	59,748	61,900	53,073	100.0	100.0	98.8	August.....	49,483	37,340	44,908	82.8	60.3	81.0
February.....	58,053	58,143	54,759	98.2	93.9	98.7	September.....	51,258	55,208	46,484	85.8	50.9	83.8
	55,771	54,305	53,185	98.3	87.7	95.9	October.....	51,059	39,536	49,477	85.5	63.9	89.2
March.....	53,994	49,904	50,990	90.4	89.8	91.9	November.....	52,610	44,219	52,410	88.1	71.4	94.5
	52,817	46,990	48,727	88.4	75.9	87.9	December.....	56,199	47,048	56,485	94.1	76.0	100.0

<sup>1</sup> The figures represent the number employed on the 15th of each month or the nearest representative day. Maximum number indicated by bold-faced figures, minimum by italic figures.

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TABLE 5.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment for each state is indicated by **bold-faced** figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.	
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
United States.....	54,368	57,926	<b>59,748</b>	58,653	55,771	53,904	52,817	52,900	<i>49,485</i>	51,256	51,059	52,610	50,109	82.8	
Males.....	53,375	56,859	<b>58,684</b>	57,617	54,765	53,043	51,925	51,950	<i>48,680</i>	50,326	49,981	51,518	55,152	83.0	
Females.....	993	1,067	1,004	1,036	1,000	951	892	950	808	930	1,078	1,092	1,047	73.5	
California.....	1,578	2,112	2,087	1,796	1,675	1,621	1,451	1,287	<i>1,184</i>	1,196	1,393	1,522	1,632	56.1	
Georgia.....	892	1,019	<i>1,083</i>	1,014	829	734	815	838	880	873	909	970	66.8		
Illinois.....	22,548	24,513	<b>25,045</b>	24,474	22,811	21,940	21,613	22,448	<i>18,920</i>	21,784	21,848	22,016	23,164	75.5	
Indiana.....	5,533	5,650	5,697	5,379	<i>5,054</i>	5,214	5,244	5,426	5,519	5,416	5,770	5,909	6,118	82.6	
Iowa.....	906	880	913	924	916	881	892	900	854	856	909	951	991	88.2	
Kentucky.....	773	879	909	924	885	838	653	645	<i>627</i>	656	706	716	838	67.9	
Michigan.....	2,708	2,644	2,943	3,111	<i>3,113</i>	2,913	2,818	2,688	<i>2,083</i>	<i>2,110</i>	2,273	2,468	2,752	67.8	
Minnesota.....	501	475	485	481	451	448	480	512	541	559	503	544	533	80.1	
New York.....	4,626	4,971	5,341	5,247	5,118	4,908	4,520	4,477	4,103	4,023	<i>3,770</i>	4,134	4,801	70.8	
Ohio.....	4,931	5,263	5,344	5,411	5,032	4,813	4,609	4,408	4,842	4,741	4,765	4,938	5,148	81.4	
Pennsylvania.....	1,371	1,500	1,476	1,439	1,494	<i>1,531</i>	1,445	1,392	1,515	987	1,092	1,127	1,454	64.5	
Tennessee.....	727	708	692	705	681	678	707	630	707	769	806	817	826	76.3	
Wisconsin.....	5,237	5,190	5,027	5,681	5,625	5,368	5,474	5,307	5,259	5,302	4,365	4,612	5,034	76.8	

TABLE 6.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—								Over 60.
			44 and under.	Between 44 and 48.	48 <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.	
United States.....	1919	54,368	169	76	2,372	27,952	6,256	15,180	2,948	15	15
	1914	48,459	(2)	(2)	4,461	2,032	4,559	25,258	11,539	10	
	1900	50,551	(2)	(2)	453	2,029	4,081	27,549	16,307	132	
California.....	1919	1,578	30	—	1,235	265	48	—	—	—	
	1914	704	(2)	(2)	8	26	870	—	—	—	
Georgia.....	1919	892	—	—	1	132	10	487	282	—	
	1914	577	—	—	—	77	52	448	—	—	
Illinois.....	1919	22,548	—	—	179	17,732	3,088	1,339	212	—	
	1914	19,556	(2)	(2)	1,197	730	506	13,752	3,311	—	
Indiana.....	1919	5,533	—	—	183	2,900	162	2,046	172	—	
	1914	3,991	(2)	(2)	2,898	407	332	—	354	—	
Iowa.....	1919	906	—	76	2	213	204	315	96	—	
	1914	1,164	(2)	(2)	1	141	37	405	580	—	
Kentucky.....	1919	773	—	—	—	58	11	698	6	—	
	1914	660	—	—	—	32	28	599	1	—	
Michigan.....	1919	2,708	—	—	2	219	120	2,266	101	—	
	1914	2,143	(2)	(2)	199	411	788	411	334	—	
Minnesota.....	1919	501	—	—	0	230	14	111	140	—	
	1914	872	(2)	(2)	1	—	9	179	683	—	
New York.....	1919	4,626	—	—	300	3,200	774	267	76	—	
	1914	5,392	—	—	—	13	132	3,571	1,675	1	
Ohio.....	1919	4,931	4	—	4	1,804	634	2,008	416	3	
	1914	5,404	(2)	(2)	10	593	811	3,519	531	—	
Pennsylvania.....	1919	1,371	125	—	1	540	343	282	101	—	
	1914	2,018	(2)	(2)	—	16	571	1,178	252	—	
Tennessee.....	1919	727	5	—	—	44	50	192	436	—	
	1914	517	—	—	—	—	91	—	418	8	
Wisconsin.....	1919	5,237	—	—	216	48	3	4,899	71	—	
	1914	3,143	(2)	(2)	4	65	88	802	2,183	1	

<sup>1</sup> Includes 48 and under for 1914 and 1909.

<sup>2</sup> Corresponding figures not available.

## MANUFACTURES.

TABLE 7.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
	Establishments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 wage earners.	
			Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.		
United States... 1919.	521	54,368	40	178	393	103	1,165	67	2,281	43	2,961	46	7,204	21	7,494	13	10,621	10	22,249	
United States... 1914.	601	48,459	35	242	520	110	1,367	76	2,408	45	3,156	50	8,286	22	7,894	14	8,948	7	15,880	
California.....	34	1,578	2	10	35	7	84	3	124	—	—	2	355	—	1	1,000	—	—	—	
Georgia.....	13	892	1	4	10	3	37	2	64	—	—	2	348	1	433	—	—	—	—	
Illinois.....	68	22,648	5	13	39	7	66	4	141	11	768	12	1,896	5	1,780	7	5,910	4	11,043	
Indiana.....	29	5,633	1	7	17	6	71	5	144	3	200	3	496	2	719	—	—	2	3,883	
Iowa.....	26	906	2	9	18	8	90	2	75	1	77	4	646	—	—	—	—	—	—	
Kentucky.....	8	773	—	4	5	2	28	1	42	—	—	—	—	—	—	1	698	—	—	
Michigan.....	23	2,708	—	6	19	4	59	6	234	3	202	1	298	2	944	1	1,042	—	—	
Minnesota.....	16	501	—	5	14	5	56	4	141	—	—	2	290	—	—	—	—	—	—	
New York.....	40	4,826	1	8	12	10	120	12	378	3	210	1	111	2	748	1	859	2	2,188	
Ohio.....	46	4,931	3	14	86	5	70	4	152	4	325	9	1,493	5	1,593	2	1,282	—	—	
Pennsylvania.....	27	1,371	7	8	7	4	33	4	115	4	244	3	347	2	625	—	—	—	—	
Tennessee.....	14	727	1	4	9	3	34	2	87	2	133	1	110	1	345	—	—	—	—	
Wisconsin.....	34	5,237	6	12	28	3	31	5	170	2	143	3	481	1	307	1	802	1	3,185	

TABLE 8.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909	
	Establishments.	Establishments.	Establishments.	Wage earners.	Wage earners.	Wage earners.	Value.	Value.	Value.	Value.	Value.	Value.	
All classes.....	521	601	640	54,368	48,459	50,551	\$304,961,265	\$164,086,835	\$146,329,268	\$160,389,322	\$90,578,100	\$86,022,749	
Less than \$5,000.....	98	109	156	74	176	171	241,262	407,827	359,971	126,093	250,073	227,415	
\$5,000 to \$20,000.....	103	129	172	317	653	844	1,137,315	1,335,821	1,827,822	617,609	742,048	1,059,120	
\$20,000 to \$100,000.....	130	142	142	1,672	2,662	2,928	6,617,812	6,845,830	6,927,862	3,425,192	3,789,067	3,779,091	
\$100,000 to \$500,000.....	103	98	5,292	{ 14,601	18,287	{ 22,732,019	{ 21,685,107	{ 43,075,407	{ 12,418,551	{ 10,958,339	{ 23,497,005	{ 23,531,480	
\$500,000 to \$1,000,000.....	29	32	186	{ 5,388	{ 8,1	{ 20,511,793	{ 21,398,998	{ 94,138,206	{ 132,843,538	{ 62,299,097	{ 57,425,628	{ 66,8	
\$1,000,000 and over.....	68	36	34	42,025	30,367	80,821	252,721,064	112,430,752	94,138,206	132,843,538	62,299,097	57,425,628	66,8
PER CENT DISTRIBUTION.													
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Less than \$5,000.....	18.8	28.1	24.4	0.1	0.4	0.3	0.1	0.2	0.3	0.1	0.3	0.3	
\$5,000 to \$20,000.....	19.8	21.5	26.9	0.6	1.3	1.7	0.4	0.8	1.3	0.4	0.8	1.2	
\$20,000 to \$100,000.....	25.0	23.6	22.2	3.1	5.5	5.8	2.2	4.2	4.7	2.1	4.2	4.4	
\$100,000 to \$500,000.....	19.8	15.5	21.3	{ 9.7	{ 30.1	{ 32.2	{ 7.8	{ 13.2	{ 29.4	{ 7.7	{ 25.9	{ 27.4	
\$500,000 to \$1,000,000.....	5.6	5.3	21.3	{ 8.1	{ 62.7	{ 60.0	{ 82.9	{ 68.5	{ 04.3	{ 82.8	{ 68.8	{ 66.8	
\$1,000,000 and over.....	11.1	6.0	5.3	78.4	62.7	60.0	—	—	—	—	—	—	

## AGRICULTURAL IMPLEMENTS.

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TABLE 9.—CHARACTER OF OWNERSHIP, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Cen-sus year.	NUMBER OF ESTABLISH-MENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.							
					In establishments owned by—			Per cent of total.						Of establishments owned by—				
		Individuals.	Corporations.	All others.	Total.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	Total.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.
United States.....	1919	139	308	74	54,368	546	53,029	793	1.0	97.5	1.5	\$304,961,265	\$2,391,965	\$297,301,964	\$5,267,836	0.8	97.5	1.7
	1914	188	318	95	48,459	819	46,233	1,407	1.7	95.4	2.9	164,086,835	2,087,503	157,490,390	4,508,942	1.3	96.0	2.7
	1909	184	349	107	50,551	965	48,141	1,445	1.9	95.2	2.9	146,320,268	2,174,856	140,633,575	3,490,827	1.5	96.1	2.4
California.....	1919	20	10	4	1,578	46	1,513	19	2.9	95.9	1.2	9,490,100	233,287	9,094,928	161,894	2.5	95.8	1.7
	1914	14	8	6	704	26	665	13	3.7	94.5	1.8	1,962,235	177,920	1,740,224	44,601	9.1	88.7	2.2
Georgia.....	1919	3	9	1	892	14	888	-----	0.4	99.6	-----	3,475,705	118,943	3,456,702	-----	0.5	99.5	-----
	1914	4	9	5	577	14	531	32	2.4	92.0	5.5	1,501,347	21,876	1,380,041	98,530	1.5	92.0	0.6
Illinois.....	1919	3	55	10	22,548	4	22,408	75	(2)	99.6	0.3	128,284,716	43,430	127,011,845	329,441	(2)	99.7	0.3
	1914	11	51	11	19,558	48	19,443	65	0.2	99.4	0.3	65,337,663	151,057	65,017,298	160,308	0.2	99.5	0.3
Indiana.....	1919	5	22	2	5,533	130	5,503	-----	0.5	99.5	-----	31,823,733	102,304	31,721,420	-----	0.3	99.7	-----
	1914	8	23	2	3,991	132	3,959	-----	0.8	99.2	-----	12,791,461	155,657	12,735,804	-----	0.4	99.6	-----
Iowa.....	1919	4	17	5	906	21	871	14	2.3	96.1	1.5	5,959,129	66,306	5,805,261	83,562	1.1	97.5	1.4
	1914	9	16	9	1,164	12	965	187	1.0	82.9	16.1	5,216,245	48,430	4,300,685	807,130	0.9	82.4	16.6
Michigan.....	1919	6	16	1	2,708	195	2,613	-----	3.5	96.5	0.9	11,090,669	274,717	10,815,952	2,500,669	2.5	97.5	0.0
	1914	8	18	4	2,143	96	2,027	20	4.5	94.6	0.9	7,731,217	273,131	7,590,617	67,469	3.5	95.6	0.0
Minnesota.....	1919	3	12	1	501	111	490	-----	2.2	97.8	1.1	2,341,311	46,635	2,294,076	-----	2.0	98.0	-----
	1914	3	11	3	872	5	857	10	0.6	98.3	1.1	8,812,728	21,785	8,740,339	50,604	0.6	98.1	1.3
Missouri.....	1919	4	7	3	254	33	213	8	13.0	83.9	3.1	1,455,774	180,450	1,258,402	47,922	10.3	86.4	3.3
	1914	6	9	3	240	41	192	7	17.1	80.0	2.9	509,904	116,600	390,034	63,270	20.5	68.4	11.1
New York.....	1919	10	24	6	4,626	72	4,487	67	1.6	97.0	1.4	20,421,368	236,562	19,840,625	338,181	1.2	97.2	1.7
	1914	14	29	7	5,392	90	5,263	39	1.7	97.6	0.7	14,576,694	187,918	14,137,363	251,413	1.3	97.0	1.7
Ohio.....	1919	5	34	7	4,931	4	4,531	396	0.1	91.9	8.0	26,556,031	35,175	23,164,938	3,355,918	0.1	87.2	12.6
	1914	14	41	4	5,464	59	5,232	173	1.1	95.8	3.2	17,484,615	168,920	16,335,978	970,717	1.0	93.4	5.6
Pennsylvania.....	1919	11	12	4	1,371	80	1,219	72	5.8	88.9	5.3	5,536,111	205,640	5,142,980	187,401	3.7	92.9	3.4
	1914	17	15	6	2,018	137	1,209	672	6.8	69.9	33.3	4,848,655	211,440	3,160,077	1,463,138	4.4	65.4	30.2
Tennessee.....	1919	2	9	3	727	-----	706	21	97.1	2.9	2,516,339	2,143,159	2,143,159	873,180	85.2	81.4	14.8	
	1914	6	8	3	517	71	440	6	18.7	85.1	1.2	1,121,694	193,636	193,636	14,549	17.3	81.4	1.3
Wisconsin.....	1919	9	19	6	5,237	33	5,196	8	0.6	99.2	0.2	43,623,308	128,566	43,450,503	44,289	0.3	99.6	0.1
	1914	13	24	9	3,143	21	3,100	22	0.7	98.6	0.7	20,119,058	112,234	19,928,945	77,879	0.6	99.1	0.4

1 Includes the group "All others."

2 Less than one-tenth of 1 per cent.

3 Includes the group "Individuals."

TABLE 10.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	5,108	3,437	1,794	128,249	121,428	100,601	100.0	100.0	100.0
Owned.....	574	823	862	80,407	90,492	84,717	62.7	74.5	84.2
Steam.....	334	470	504	69,942	70,688	71,884	54.5	65.6	71.5
Engines.....	303	(1)	(2)	51,107	(2)	(2)	39.8	-----	-----
Turbines.....	31	(3)	(2)	18,835	(2)	(2)	14.7	-----	-----
Internal-combustion engines.....	166	280	261	4,092	5,113	4,433	3.2	4.2	4.4
Water wheels, turbines, and motors.....	74	73	97	6,373	6,691	8,390	5.0	4.7	8.3
Rented.....	4,504	2,614	932	47,842	30,936	15,884	37.3	25.5	15.8
Electric.....	4,504	2,614	932	47,842	30,764	15,884	37.3	25.3	16.6
Other.....					172	200	0.1	0.1	0.2
Electric.....	7,993	5,789	2,057	100,263	88,117	38,905	100.0	100.0	100.0
Rented.....	4,504	2,614	932	47,842	30,764	15,884	47.7	37.0	40.3
Generated by establishments reporting.....	3,399	3,175	1,125	52,421	52,353	23,221	52.3	63.0	59.7

1 Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

2 Not reported separately.

## MANUFACTURES.

TABLE 11.—FUEL CONSUMED, BY STATES: 1919.

STATE.	Cen-sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (barrels).	Gas-o-line and other volatile oils (barrels).	Gas (1,000 cubic feet).	STATE.	Cen-sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (barrels).	Gas-o-line and other volatile oils (barrels).	Gas (1,000 cubic feet).
		Anthra-cite (tons, 2,240 pounds).	Bitumi-nous (tons, 2,000 pounds).							Anthra-cite (tons, 2,240 pounds).	Bitumi-nous (tons, 2,000 pounds).				
United States . . .	1919	13,497	549,557	115,368	342,547	29,654	435,303	Minnesota . . . . .	1919	3	3,646	630	35	124	26
Per cent of in-crease <sup>1</sup> . . .	1914	8,863	555,271	104,386	240,080	(1)	234,349		1914	8	5,707	1,407	369	(1)	40
		52.3	-1.0	10.5	55.0	(1)	85.8	New Jersey . . . . .	1919	7,215	20	3,405	4,920	61	629
California . . . . .	1919	63	450	807	13,185	4,772	14,016		1914	697	201	308	1,713	(1)	336
	1914	21	564	153	2,957	(1)	5,106	New York . . . . .	1919	2,096	56,910	10,586	25,354	939	3,320
Georgia . . . . .	1919	4	3,938	2,390	818	(1)	-----		1914	2,109	53,680	12,497	41,197	(1)	9,581
	1914	4	4,720	1,531	6	(1)	-----	Ohio . . . . .	1919	27	42,777	11,523	10,525	281	174,734
Illinois . . . . .	1919	98	288,205	43,202	164,191	5,052	206,742		1914	44,408	9,089	9,558	(1)	193,261	
	1914	536	289,849	46,500	131,241	(1)	5,040	Pennsylvania . . . . .	1919	3,101	10,851	1,177	12,243	184	1,453
Indiana . . . . .	1919	34	56,328	15,526	63,604	9,420	1,616		1914	2,400	16,903	1,601	11,047	(1)	2,109
	1914	25	45,630	10,486	13,760	(1)	826	Tennessee . . . . .	1919	3	5,144	3,983	21	75	541
Iowa . . . . .	1919	5	4,280	2,420	3,882	694	4,545		1914	6,045	5,995	70	(1)	-----	
	1914	551	7,073	1,295	579	(1)	2,704	Wisconsin . . . . .	1919	29	44,338	11,064	34,454	6,118	11,171
Kentucky . . . . .	1919	3,097	66	120	5	12,213	892		1914	96	29,342	6,340	(1)	8,851	
	1914	8,305	463	2	(1)	892	All other states . . .	1919	738	6,443	3,699	5,985	990	1,727	
Michigan . . . . .	1919	82	23,040	4,882	4,465	112	1,722		1914	2,301	9,512	3,635	(1)	5,059	
	1914	115	23,242	2,996	11,716	(1)	146								

<sup>1</sup> Included in figures for fuel oils.<sup>2</sup> A minus sign (—) denotes decrease.

## SPECIAL STATISTICS.

Certain additional detailed information concerning the quantity and value of products for the industry is collected by means of supplemental schedules, data for which are presented in Table 12. In 1919, of the four specified classes of agricultural implements shown, "Plows and cultivators" was first in importance, measured by value of products, constituting 41 per cent of the total for the four groups and 21.4 per cent of the total value of all products of the industry. "Harvesting implements" held first position in this group in 1914 and was second in importance in 1919.

Large increases are shown in the values of "All other agricultural implements" and "Amount received for repair work" during the five-year period from 1914 to

1919, amounting to \$36,261,347, or 130.2 per cent, and \$11,509,243, or 800.8 per cent, respectively. During this five-year period "All other products" shows an increase of \$37,223,012, or 119 per cent. In 1919 "All other products" included tractors valued at \$42,697,610; engines, \$3,223,103; wagons, \$2,647,859; automobiles, \$2,190,067; and other miscellaneous products to the value of \$17,741,394. In an analysis of Table 12, relative to the number of the different kinds of implements manufactured from census to census, consideration should be given to the fact that in making comparisons there is considerable variety of sizes and types as well as to the fact that some establishments failed to report the number of implements separately.

# AGRICULTURAL IMPLEMENTS.

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TABLE 12.—DETAILED STATISTICS OF QUANTITY AND VALUE: 1919, 1914, 1909, AND 1904.

	1919	1914	1909	1904		1919	1914	1909	1904
Products, total value <sup>1</sup> ....	\$304,961,265	\$164,086,835	\$146,329,268	\$112,007,344	Planters and seeders—Con.				
Plows and cultivators.....	65,329,111	38,662,037	36,784,477	30,607,960	Seed sowers, hand, field.....	86,763	12,608	7,847	59,910
Planters and seeders.....	17,490,403	12,188,757	12,141,474	11,225,122	Seed drills, hand, garden.....	8,971	43,113	(2)	(2)
Harvesting implements:					Other planters and seeders.....	16,198	4,124	(2)	(2)
Hayrakes and hay tedders.....	4,772,493	3,283,630			Harvesting implements:				
Mowers and reapers.....	40,169,591	30,974,709	34,568,131	30,862,435	Binders—				
Other.....	9,282,056	5,372,947			Grain.....	155,466	215,386	129,274	108,810
Seed separators:					Corn.....	22,880	52,087	19,693	6,924
Thrashers.....	16,593,273	9,832,043	11,030,412	6,639,883	Grain cradles.....	58,239	38,728	22,635	30,056
Other.....	5,771,870	3,204,246			Grain elevators for use on farm.....	5,905	(2)	(2)	(2)
All other agricultural implements, including parts.....	61,105,527	27,844,180	48,690,082	30,703,648	Harvesters—				
All other products.....	63,500,033	31,277,021			Bean.....	9,528	3,401	1,400	666
Amount received for repair work.....	12,946,508	1,437,265	3,114,092	1,968,206	Push.....	2,337	(2)	(2)	(2)
<i>Principal kinds of implements.</i>					Harvesters and thrashers combined.....	2,302	270	543	(4)
Implements of cultivation:					Other.....	22,887	2,758	1,707	3,16
Cultivators—					Headers—	4,187	(2)	(2)	(2)
Boat.....	Number. 7,088	Number. 2,184	Number. 3,172	Number. 3,459	Hay.....	11,865	44,277	45,064	85,121
Hand, garden, or garden plows.....	419,086	238,081	469,606	239,173	Hay carriers.....	6,323	31,976	43,675	62,801
One and two horse.....	300,122	254,155			Hay forks, horse.....	20,570	25,895	34,705	27,174
Wheeled—					Hay loaders—				
One row.....	144,259	347,329			Sulky.....	61,265	130,565		
Two rows.....	44,847	31,695	435,420	813,088	Sweep.....	18,398	23,304	206,200	236,297
Cotton scrapers.....	10,807	17,537	20,180	22,519	Side delivery.....	14,270	20,218		
Fertilizing machines.....	82,554	180,854			Hay stackers.....	7,600	6,437	17,212	8,870
Harrows—					Hay tedders.....	10,282	9,796	34,398	35,745
Disk.....	175,712	200,077	198,000	104,323	Hay presses.....	7,154	(2)	(2)	(2)
Spring-tooth.....	79,532	187,370	112,832	86,408	Mowers.....	151,133	274,521	359,264	273,385
Spike-tooth.....	222,709	368,219	394,988	262,442	Other haying tools.....	130,052	37,706	(2)	(2)
Land rollers.....	8,054	22,170			Potato diggers, horse.....	12,484	25,758	26,632	11,703
Land packers.....	19,501	(2)	(2)		Reapers.....	8,368	56,982	58,294	60,996
Listers.....	31,680	37,953	44,840	23,012	Stalk cutters.....	19,033	(2)	(2)	(2)
Plows—					Other.....	1,090,037	13,746	(2)	(2)
Disk.....	15,431	15,708	22,132	39,146	Seed separators:				
Gang.....	42,240	75,839	91,686	(2)	Clover hullers.....	607	324	437	351
Shovel.....	108,887	181,550	254,737	121,899	Corn huskers.....	1,194	341	318	1,327
Engine.....	4,952	3,285	2,355	1,598	Corn huskers and shredders.....	2,884	4,338	1,294	(2)
Sulky (single).....	60,900	105,232	134,936	138,899	Corn pickers.....	3,078	(2)	(2)	(2)
Tractor.....	98,536	(2)	(2)		Corn shellers—				
Walking.....	720,174	870,414	1,110,000	956,898	Hand.....	37,272	63,206	74,223	47,189
Pulverizers.....	7,134	12,724			Power.....	8,486	11,113	9,049	6,032
Other.....	29,295	80,096			Fanning mills.....	13,302	23,047	33,805	22,094
Planters and seeders:					Feed mills.....	10,314	(2)	(2)	(2)
Scidders—					Thrashers—				
Broadcast.....	18,360	34,175	461,970	33,546	Horsepower.....	3,766	302	822	2,237
Wagon or endgate.....	16,391	16,122			Engine.....	10,162	13,246	12,957	7,950
Seeder attachments.....	34,330	10,000			Other.....	6,586	6,212	(2)	(2)
Corn planters—					Miscellaneous:				
Hand.....	28,065	101,850	96,465	86,553	Dairy machinery—				
Horse.....	93,976	114,657	122,780	90,020	Cream separators.....	11,255			
Cotton planters.....	87,408	101,256	79,271	127,052	Other.....	1,001			
Potato planters.....	5,994	37,191	23,092	35,750	Manure spreaders.....	80,991			
Drills—					Equalizers.....	13,989			
Corn.....	29,809	55,710	20,137	28,228	Knife grinders.....	22,173			
Grain.....	63,255	89,370	689,908	76,929	Feed grinders.....	13,071			
All other.....	5,870	10,688	32,607	606	Ensilage cutters.....	18,013			

<sup>1</sup> In addition to the amounts shown, agricultural implements to the value of \$14,938,340 in 1910, \$4,083,797 in 1914, \$2,989,276 in 1909, and \$1,349,679 in 1904 were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designated.

<sup>a</sup> Not reported.

<sup>b</sup> Not reported separately.

<sup>c</sup> Includes 23,983 combination seeders.

<sup>d</sup> Includes 21,292 disk drills of all kinds.

Summary, by states.—Table 13 gives, by states, the total value of each of the four principal groups of agri-

cultural implements, as reported at the censuses of 1919, 1914, and 1909.

TABLE 13.—COMPARATIVE SUMMARY—FOUR CHIEF GROUPS OF AGRICULTURAL IMPLEMENTS, BY STATES: 1919, 1914, AND 1909.

PRODUCT AND STATE.	1919	1914	1909	PRODUCT AND STATE.	1919	1914	1909
PLOWS AND CULTIVATORS, value....	\$65,329,111	\$38,662,037	\$36,784,477	SEED SEPARATORS, value.....	\$22,364,943	\$13,096,280	\$11,030,417
Illinois.....	29,822,582	17,653,276	15,961,417	Illinois.....	5,603,690	2,183,640	1,847,02
Indiana.....	12,415,810	4,447,550	4,606,748	Wisconsin.....	(1)	(1)	1,435,296
Ohio.....	6,701,388	4,627,191	3,062,194	Indiana.....	(1)	(1)	2,748,913
New York.....	4,784,370	3,176,951	3,348,203	Michigan.....	(1)	2,109,552	1,763,043
Wisconsin.....	2,028,830	2,077,159	2,324,579	Pennsylvania.....	1,351,891	885,017	828,617
Georgia.....	1,114,452	(1)	(1)	Ohio.....	1,195,874	1,344,209	858,106
Tennessee.....	857,632	(1)	(1)	All other states.....	14,213,588	6,553,871	1,559,411
Pennsylvania.....	791,590	954,113	1,147,063	PLANTERS AND SEEDERS, value....	17,400,403	12,188,757	12,141,47
California.....	763,102	(1)	(1)	Illinois.....	5,352,515	3,654,223	4,142,23
All other states.....	6,049,355	5,725,797	6,334,273	Ohio.....	(1)	(1)	2,245,61
HARVESTING IMPLEMENTS, value....	54,224,740	39,581,286	34,568,131	Indiana.....	(1)	(1)	1,499,636
Illinois.....	35,805,793	27,177,513	22,417,070	Wisconsin.....	(1)	2,032,753	1,639,29
New York.....	8,916,235	6,545,636	6,950,777	New York.....	460,159	463,998	247,35
Ohio.....	2,223,127	2,573,726	2,675,727	All other states.....	11,677,729	6,037,782	2,367,431
Iowa.....	1,610,684	936,605	1,157,701				
All other states.....	5,668,901	2,349,606	2,366,856				

<sup>1</sup> Included in "All other states" to avoid disclosing the operations of individual establishments.

In 1919 Illinois ranked first in the value of its manufacturers of each of these four principal classes of agricultural implements. In 1914 Wisconsin held first position in the manufacture of seed separators, but the exact figures for the state were not published separately in order to avoid disclosing the operations of

individual establishments. In 1919, measured by value, about two-thirds of the harvesting implements, over two-fifths of plows and cultivators, nearly one-third of planters and seeders, and about one-fourth of seed separators were manufactured in Illinois.

## GENERAL TABLES.

Table 14 gives for 1919, 1914, and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the agricultural-implement industry.

Table 15 presents, for 1919, statistics in detail for the industry as a whole, and for each state that can be shown separately without the possibility of disclosing the operations of individual establishments.

TABLE 14.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen-sus year.	Num-ber of es-tab-lish-ments.	Wage earners (aver-age num-ber).	Primary horse-power.	Wages.	Cost of ma-terials.	Value of prod-ucts.	STATE.	Cen-sus year.	Num-ber of es-tab-lish-ments.	Wage earners (aver-age num-ber).	Primary horse-power.	Wages.	Cost of ma-terials.	Value of prod-ucts.		
Expressed in thousands.								Expressed in thousands.									
United States.....	1910	521	54,308	128,249	\$66,704	\$144,572	\$304,961	New York.....	1910	40	4,626	12,736	\$5,312	\$9,940	\$20,421		
	1914	601	48,459	121,428	34,593	73,509	164,087		1914	50	5,392	11,774	3,428	7,073	14,577		
	1900	640	50,551	100,801	28,609	60,307	146,329		1909	57	5,717	10,744	3,270	6,415	14,071		
California.....	1910	34	1,578	4,688	1,908	3,717	9,400	North Carolina.....	1910	17	230	431	244	319	877		
	1914	28	701	1,533	586	900	1,982		1914	17	149	389	71	98	305		
	1900	25	622	1,186	451	1,441	2,670		1909	22	132	356	50	90	205		
Georgia.....	1910	13	892	2,072	651	1,813	3,476	Ohio.....	1910	46	4,931	10,470	5,076	12,907	26,550		
	1914	18	577	1,516	230	845	1,501		1914	59	5,404	11,677	3,826	7,810	17,485		
	1900	17	559	1,307	190	583	1,117		1909	55	5,997	9,887	3,155	6,319	14,410		
Illinois.....	1910	68	22,548	54,608	28,342	65,160	128,285	Pennsylvania.....	1910	27	1,371	3,006	1,511	2,506	5,630		
	1914	73	19,556	50,044	15,668	32,878	65,388		1914	38	2,018	4,472	1,121	1,907	4,814		
	1900	79	19,240	38,040	11,718	24,824	57,208		1909	36	2,401	3,842	1,223	2,082	4,805		
Indiana.....	1910	29	5,533	10,964	7,401	12,615	31,824	Tennessee.....	1910	14	727	2,041	720	1,237	2,516		
	1914	33	3,991	10,892	2,556	3,487	12,791		1914	17	517	1,450	253	301	1,122		
	1900	39	4,749	9,251	2,565	4,864	15,670		1909	16	615	1,236	208	413	1,001		
Iowa.....	1910	26	906	2,896	1,082	2,822	5,950	Vermont.....	1910	10	241	1,141	200	291	601		
	1914	34	1,164	2,458	704	2,052	5,216		1914	9	311	1,245	182	310	606		
	1900	42	1,318	2,554	683	2,171	4,757		1909	11	360	1,194	185	272	552		
Kansas.....	1910	14	129	268	118	453	770	Virginia.....	1910	14	239	507	242	360	926		
	1914	11	64	233	40	154	315		1914	20	269	530	122	168	481		
	1900	18	126	434	74	162	369		1909	16	272	503	117	244	516		
Michigan.....	1910	23	2,708	6,197	3,003	5,048	11,091	Washington.....	1910	9	146	320	179	446	913		
	1914	30	2,143	5,041	1,456	2,040	7,781		1914	7	134	202	115	184	392		
	1900	32	2,359	5,195	1,261	2,890	9,273	Wisconsin.....	1910	34	5,237	10,673	7,582	18,486	43,623		
Minnesota.....	1910	16	501	723	498	1,365	2,341		1914	46	3,143	9,196	2,198	8,676	20,110		
	1914	17	872	2,459	707	1,474	3,813		1909	45	2,704	7,301	1,506	3,937	11,411		
	1900	17	1,014	1,468	632	1,090	3,014	All other states.....	1910	68	1,352	3,881	1,452	3,438	6,034		
Missouri.....	1910	14	254	656	253	800	1,467		1914	67	1,481	4,117	940	1,747	8,895		
	1914	18	240	742	142	270	570		1909	78	1,681	4,316	930	1,679	4,464		
	1900	25	438	1,080	219	504	981	New Jersey.....	1910	10	219	501	239	700	1,365		
	1914	9	270	518	178	445	931		1914	9	224	724	112	327	755		
	1900	10	224	724	112	327	755		1909	10	219	501	239	700	1,365		

## AGRICULTURAL IMPLEMENTS.

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TABLE 15.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				EXPENSES.					
		Total.	Proprietors and firm members.	Salaries of officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.		Capital.	Salaries and wages.			
					Male.	Female.	Number, 15th day of—			Male.	Female.	Male.	Female.		Officials.	Clerks, etc.		
							Maximum month.	Minimum month.										
United States...	521	67,177	321	2,808	7,276	2,346	54,338	Feb 50,748	Au 49,483	57,539	56,496	962	80	1	366,962,062	Dollars.	Dollars.	
California...	34	2,283	29	88	420	108	1,578	Feb 2,112	Au 1,184	1,025	1,009	15	1	...	10,032,253	407,287	766,729	
Colorado...	5	30	4	4	2	1	19	Se 30	Fe 1	22	21	1	...	...	8,300	2,050	...	
Georgia...	13	974	5	28	35	14	892	Fe 1,003	Je 780	914	898	9	7	...	2,603,499	121,946	43,791	
Illinois...	68	26,555	27	1,025	2,103	852	22,548	Fe 25,045	Au 18,920	23,262	22,811	413	33	...	150,484,328	3,306,170	4,034,713	
Indiana...	29	7,149	10	313	976	314	5,533	De 6,118	Ap 5,054	6,122	5,987	176	9	...	42,534,365	1,098,908	1,432,434	
Iowa...	26	1,141	20	93	69	53	906	De 991	Au 854	1,017	985	22	10	...	5,232,384	327,991	150,642	
Kansas...	14	182	14	16	14	9	129	Je 150	Ja 108	140	140	...	...	1,223,922	40,800	28,699		
Kentucky...	3	1,272	4	20	368	107	773	Mh 924	Au 727	838	826	11	1	...	5,592,435	60,452	429,465	
Michigan...	23	3,259	8	138	273	132	2,708	Ap 3,113	Se 2,110	2,727	2,665	61	1	...	14,405,102	404,968	504,629	
Minnesota...	18	618	3	50	41	23	501	Se 559	My 448	554	549	5	...	2,623,932	115,826	77,806		
Missouri...	14	315	8	18	22	13	254	Je 340	De 199	257	256	...	1	...	1,898,814	42,944	41,248	
Nebraska...	8	82	10	2	1	3	66	Se 84	Ja 1	52	84	...	...	344,304	2,100	3,775		
New Jersey...	10	303	10	26	22	26	210	Ja 284	Oc 175	206	206	...	...	2,306,138	68,379	69,192		
New York...	40	5,539	25	259	488	141	4,626	Fe 5,341	Oc 3,779	5,268	5,184	134	...	27,473,112	708,142	817,813		
North Carolina...	17	269	14	17	5	3	230	De 241	Je 216	238	238	...	...	740,289	60,717	11,335		
Ohio...	46	5,991	27	240	585	208	4,931	Mh 5,411	Jy 4,406	5,283	5,216	67	...	27,884,087	946,901	1,180,340		
Pennsylvania...	27	1,687	22	76	158	69	1,371	My 1,531	Se 987	1,505	1,494	11	...	8,626,304	220,501	268,487		
Tennessee...	14	820	11	33	32	17	727	De 826	Jy 630	809	791	18	...	2,520,435	94,069	59,188		
Vermont...	10	267	2	15	3	6	241	Mh 255	Jy 226	236	231	5	...	855,148	44,903	9,252		
Virginia...	14	283	4	22	12	6	239	Ja 282	Je 188	254	253	...	1	...	886,232	69,814	18,839	
Washington...	9	177	8	16	6	1	146	De 207	Ja 84	123	122	1	...	805,226	39,518	12,133		
Wisconsin...	34	7,341	21	319	1,599	185	5,237	Mh 5,081	Oc 4,385	5,582	5,564	6	12	...	64,956,330	1,005,179	2,584,729	
All other states*	42	640	35	48	39	24	494	...	...	473	466	4	2	1	2,701,247	133,298	94,587	
EXPENSES—continued.															POWER.			
STATE.	Salaries and wages—Continued.	Rent and taxes.			For materials.			Value of products.	Value added by manufacture.	Primary horsepower.					Electric horsepower generated in establishments reporting.			
		For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.			Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power.*					
		Wage earners.					Owned.											
		Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Total.	Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power.*	Rented. <sup>†</sup>			
United States...	Dollars. 66,704,434	Dollars. 113,421	Dollars. 188,432	Dollars. 11,986,419	Dollars. 130,533,431	Dollars. 5,088,512	Dollars. 304,961,265	Dollars. 160,889,822	Dollars. 128,249	51,107	18,885	4,092	6,373	47,842	52,421			
California...	1,068,168	24,715	12,527	1,078,312	3,592,172	124,930	9,490,109	5,773,007	4,668	95	616	5	3,957	164	...			
Colorado...	25,834	1,025	681	12,126	1,830	122,050	64,094	57	57	...	5	...	52	...	...			
Georgia...	652,900	3,780	414	104,948	1,755,002	58,040	8,475,705	1,682,663	2,072	740	27	...	1,305	...	...			
Illinois...	23,342,271	47,981	50,244	4,731,058	62,883,409	2,268,411	128,254,716	65,124,808	54,008	22,000	10,134	72	1,990	21,312	24,079			
Indiana...	7,401,107	20,779	3,452	12,187,403	447,424	31,823,733	18,208,811	10,804	3,848	3,360	73	2,025	1,688	7,616	...			
Iowa...	1,082,273	350	8,149	184,820	2,740,546	81,651	5,950,120	3,136,932	2,396	305	90	...	1,902	2	...			
Kansas...	117,451	1,083	2,300	5,460	446,101	6,902	769,914	316,911	268	...	68	...	205	...	...			
Kentucky...	866,749	776	432,327	2,241,370	38,634	4,407,137	2,127,124	2,073	653	...	31	...	1,389	...	...			
Michigan...	3,063,862	427	2,061	442,721	4,837,772	210,198	11,090,669	6,042,701	6,197	2,903	50	...	3,154	332	...			
Minnesota...	498,176	253	1,619	26,920	1,319,700	35,570	2,411,311	986,041	723	340	14	...	369	221	...			
Missouri...	252,540	1,000	4,780	15,242	774,376	25,887	1,456,774	656,511	656	280	61	...	315	...	...			
Nebraska...	69,319	18	4,737	1,720	197,167	9,613	349,828	143,048	185	70	11	...	104	33	...			
New Jersey...	239,414	...	1,104	36,203	671,105	29,026	1,364,819	664,628	591	120	356	100	...	15	...			
New York...	5,311,078	4,921	25,076	572,855	9,432,590	507,164	20,421,368	10,481,614	12,730	5,619	1,512	601	1,036	3,308	5,794			
North Carolina...	243,718	1,290	414	32,061	304,307	15,241	876,814	557,266	431	65	30	54	...	282	1			
Ohio...	5,075,451	1,500	10,480	571,380	12,611,928	354,807	26,556,031	13,589,296	10,470	4,170	1,433	1,565	220	3,082	5,893			
Pennsylvania...	1,541,228	150	240	125,041	2,420,777	175,504	5,836,111	2,938,830	3,006	1,935	50	100	921	1,486	...			
Tennessee...	720,269	3,616	100	98,931	1,174,722	62,298	2,516,339	1,279,321	2,041	1,075	6	2	958	...	...			
Vermont...	200,401	...	84	14,544	287,725	23,143	600,912	310,044	1,141	220	40	585	298	...	...			
Virginia...	241,871	1,200	7,045	43,863	347,524	21,193	928,019	557,302	507	100	27	14	366	...	...			
Washington...	178,460	80	1,388	40,207	433,985	11,789	912,946	487,192	320	...	...	...	320	...	...			
Wisconsin...	7,582,321	70	45,928	1,285,284	17,990,671	494,920	43,623,368	25,137,777	10,673	5,653	2,875	163	2,182	5,908	97			
All other states <sup>2</sup> ...	490,173	500	11,489	63,753	856,789	36,361	2,058,403	1,162,813	1,566	527	108	541	390	...	...			

<sup>1</sup> Same number reported for one or more other months.

<sup>2</sup> All other states embrace: Alabama, 1 establishment; Arkansas, 3; Connecticut, 2; Florida, 3; Idaho, 2; Louisiana, 3; Maine, 2; Maryland, 2; Massachusetts, 2; Mississippi, 2; New Hampshire, 2; North Dakota, 1; Oklahoma, 2; Oregon, 1; South Carolina, 3; South Dakota, 4; Texas, 5; Utah, 1; and West Virginia, 1.

<sup>3</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

<sup>4</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

## BUTTONS.

### GENERAL STATISTICS.

**General character of the industry.**—This report presents statistics for establishments engaged primarily in the manufacture of buttons, including those making button blanks or molds from the raw materials and those making finished buttons from either the raw materials or blanks. These establishments manufacture bone, shell, metal, celluloid, plastic, cloth-covered, porcelain, pearl, glass, horn, composition, vegetable ivory, and wood buttons, and shell button blanks. Snap fasteners are also made by some of the establishments.

**Importance and growth of the industry.**—Table 1 summarizes the statistics of each census since 1879, with percentages of increase for each period. With few exceptions increases are noticeable at each succeeding census. The large increases, however, from 1914 to 1919, in salaries and wages, cost of materials, and value of products, are due largely to a general rise of prices and wages following the World War, and do not, therefore, fairly measure the growth of the industry for that period. A truer index of industrial conditions is found in the increases in the average number of wage earners and primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes."

The value of products includes considerable duplication, due to the fact that most of the button blanks, backs, and parts, made by establishments engaged primarily in their manufacture, were utilized as materials by establishments manufacturing the finished button.

The actual value of products of the button industry is most nearly represented by the value of the complete buttons manufactured, which amounted to \$34,556,797 in 1919.

**States, ranked by value of products.**—New York, as shown by Table 2, was, preeminently, the leading state in 1919, as it has been for a number of preceding censuses. In 1919 this state reported 42.2 per cent of the total number of wage earners and 44.7 per cent of the total value of products. New Jersey, second in importance, contributed only 16.5 per cent and 16.8 per cent, respectively, of these two items. The industry is strongly centralized in the four adjoining states of Connecticut, New York, New Jersey, and Pennsylvania, with a total value of products of \$29,993,696, or 71.7 per cent of the total for the industry.

Some of the states (Arkansas, Kansas, Michigan, New Hampshire, West Virginia, and Wisconsin), for which data can not be given without disclosing the

operations of individual establishments, ranked higher than a number of those presented in the table.

**Persons engaged in the industry.**—The classification, by sex, for 1919 was reported separately, but for 1914 and 1909 was obtained in the same manner as the distribution by age. The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures by states will be found in Table 13.

**Wage earners, by months.**—As shown by Table 4, the number of wage earners employed in the industry month by month ranged from a maximum of 16,876 in November to a minimum of 14,594 in April, the minimum number being equivalent to 86.5 per cent of the maximum. Figures are given separately for all states reporting over 350 wage earners while for the United States the number of males and females is also shown. The table shows a number of states which employed a large proportion of female wage earners.

**Prevailing hours of labor.**—Table 5 shows a marked shortening of the working day for the industry since 1914. In that year only 19.9 per cent were reported as employed fewer than 54 hours per week as against 68 per cent in 1919. In 1914 the "60" and "Over 60" groups constituted 10.4 per cent of the total wage earners, as compared with 6.5 per cent in 1919.

**Size of establishments, by average number of wage earners.**—Analysis of Table 6 discloses the significant fact that 255 establishments, or 45.8 per cent of the total, employed fewer than six wage earners each, while only 499, or 3.2 per cent of the total number of wage earners, were employed therein. On the other hand, the establishments employing an average of more than 100 wage earners comprised only 6.5 per cent of the total number of establishments but employed 50.6 per cent of the total number of wage earners.

**Size of establishments, by value of products.**—At the censuses of 1909 and 1914 establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been compiled, however, from the returns of 1914. The table, therefore, gives combined figures for these two groups in the case of all items for 1909, and in the case of average number of wage earners and value added by manufacture for 1914. The statistics in Table 7 show the degree of concentration

of production in large establishments. In 1919 the groups "\$500,000 to \$1,000,000" and "\$1,000,000 and over" included 19 establishments, or 3.4 per cent of the total number for the industry; employed 5,422 wage earners, or 34.8 per cent of the total average number; and reported products to the value of \$16,729,971, or 40 per cent of the total value of products.

**Character of ownership.**—Table 8 emphasizes the predominance of the corporate form of ownership. Though corporations owned only 30 per cent of the total number of establishments of the industry in 1919, they employed 75.5 per cent of the total average number of wage earners, and reported 74.3 per cent of the value of products. During the five-year period

1914-1919 the average number of wage earners in corporations increased 1,739, or 17.4 per cent, and the value of products \$16,583,316, or 114.2 per cent.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 9, there was an increase in the total horsepower for the industry of 1,803 horsepower, or 12.5 per cent. This increase was wholly due to rented power, which shows an increase of 4,272 horsepower, or 98.4 per cent, while owned power decreased 2,469 horsepower, or 32.5 per cent, during the five-year period.

**Fuel consumed.**—Table 10 shows the principal kinds of fuel used by the industry in 1919 and 1914. In 1914 gasoline and other volatile oils were included in the total for fuel oils.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. <sup>1</sup>					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	557	517	444	275	238	106	124	7.7	16.4	61.5	15.5	124.5	-14.5
Persons engaged.....	17,758	16,296	18,004	11,637	9,291	(2)	(2)	9.0	-0.5	54.7	25.3	.....	.....
Proprietors and firm members..	575	530	619	302	267	(2)	(2)	7.3	3.3	71.0	13.1	.....	.....
Salaried employees.....	1,606	1,249	1,058	768	339	(2)	(2)	28.6	18.1	37.8	126.5	.....	.....
Wage earners (average number).....	15,577	14,511	16,427	10,567	8,035	3,831	5,825	7.3	-11.7	55.5	21.7	128.7	-34.2
Primary horsepower.....	16,201	14,398	12,831	6,982	4,105	1,680	(2)	12.5	12.2	83.8	67.6	147.0	.....
Capital.....	\$20,977,073	\$10,075,374	\$15,640,152	\$7,783,800	\$4,212,568	\$3,089,265	\$2,013,350	57.2	22.0	100.0	84.8	36.4	53.4
Salaries and wages.....	17,121,027	8,075,230	8,088,394	4,391,069	3,122,596	1,673,870	1,045,130	112.0	-0.2	84.2	40.6	80.5	1.7
Salaries.....	3,310,328	1,050,837	1,290,217	711,473	296,358	(2)	(2)	102.0	27.1	82.6	140.1	.....	.....
Wages.....	13,772,500	6,424,300	6,760,177	3,080,196	2,820,238	(2)	(2)	114.4	-5.4	84.5	30.2	.....	.....
Paid for contract work.....	338,200	83,933	206,984	30,638	88,040	(2)	(2)	303.0	-68.6	771.4	-85.2	.....	.....
Rent and taxes.....	1,188,560	427,198	270,374	* 149,887	* 98,715	(2)	(2)	178.2	58.0	.....	.....	.....	.....
Cost of materials.....	16,745,357	8,702,200	9,511,291	4,144,440	2,803,246	1,551,003	1,792,891	92.4	-8.8	130.2	47.8	80.7	-13.5
Value of products.....	41,840,450	20,711,979	22,708,065	11,138,709	7,095,010	4,216,705	4,449,642	102.0	-8.8	104.0	44.7	82.5	-5.2
Value added by manufacture <sup>2</sup> .....	25,005,102	12,009,770	18,166,774	6,080,323	4,892,604	2,665,102	2,656,051	109.0	-8.8	88.4	42.0	83.6	0.3

<sup>1</sup> A minus sign (-) denotes decrease.<sup>2</sup> Figures not available.<sup>3</sup> Exclusive of internal revenue.<sup>4</sup> Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.	557	15,577	100.0	....	\$41,840	100.0	....	\$25,095	100.0	....	Indiana.....	14	261	1.7	9	408	1.0	11	237	0.9	11
New York.....	243	6,568	42.2	1	18,698	44.7	1	11,216	44.7	1	Missouri.....	9	235	1.5	11	305	0.9	12	232	0.9	12
New Jersey.....	70	2,570	16.5	2	7,021	16.8	2	4,022	16.0	2	Kentucky.....	5	99	0.6	15	196	0.5	14	113	0.5	15
Iowa.....	77	2,091	13.4	3	5,615	13.4	3	3,130	12.5	3	Ohio.....	6	114	0.7	14	192	0.5	16	117	0.5	14
Pennsylvania.....	24	807	5.2	4	2,319	5.5	4	1,350	5.4	4	Rhode Island.....	3	33	0.2	20	104	0.2	16	56	0.2	17
Connecticut.....	16	768	4.9	5	1,956	4.7	5	1,291	5.2	5	Minnesota.....	5	54	0.3	17	88	0.2	18	51	0.2	18
Illinois.....	33	452	2.0	6	1,030	2.5	6	634	2.5	7	California.....	7	34	0.2	19	66	0.2	20	50	0.2	19
Massachusetts.....	17	385	2.5	7	1,018	2.4	7	756	3.0	6	Washington.....	3	5	(1)	22	15	(1)	21	11	(1)	21
											All other states.....	25	1,101	7.1	....	2,719	6.5	....	1,814	7.2	...

<sup>1</sup> Less than one-tenth of 1 per cent.

## MANUFACTURES.

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS,	Cen-	Total.	Male.	Fe-	PER CENT OF TOTAL.		CLASS,	Cen-	Total.	Male.	Fe-	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	17,758	11,020	6,738	62.1	37.9	Clerks and other subordinate salaried employees.	1919	964	471	493	48.9	51.1
	1914	16,299	10,584	5,712	64.9	35.1		1914	837	527	310	63.0	37.0
	1909	18,004	11,301	6,703	62.8	37.2		1909	728	449	270	61.7	38.3
Proprietors and officials.....	1910	1,217	1,147	70	94.2	5.8	Wage earners (average number).....	1919	15,577	9,402	6,175	60.4	39.6
	1914	918	911	37	96.1	3.9		1914	14,511	9,146	5,365	63.0	37.0
	1909	849	814	35	95.9	4.1		1909	16,427	10,038	6,389	61.1	38.9
Proprietors and firm members.....	1910	575	549	26	95.5	4.5	16 years of age and over.....	1919	15,298	9,308	5,990	60.8	39.2
	1914	536	511	25	95.3	4.7		1914	14,243	9,029	5,214	63.4	36.6
	1909	510	498	21	96.0	4.0		1909	15,855	9,363	6,002	62.1	37.9
Salaried officers of corporations.....	1910	260	254	15	94.4	5.6	Under 16 years of age.....	1910	270	04	185	33.7	66.3
	1914	192	185	7	96.4	3.6		1914	268	117	151	43.7	56.3
	1909	130	125	5	96.2	3.8		1909	572	185	387	32.3	67.7
Superintendents and managers.....	1910	373	344	29	92.2	7.8							
	1914	220	215	5	97.7	2.3							
	1909	200	191	0	95.5	4.5							

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by italic figures.]

STATE.	Aver-	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.											Per-	
		Janu-	Febru-	March.	April.	May.	June.	July.	August.	Septem-	Octo-	Novem-	Decem-	cent
ary.	ary.	ary.	ary.	ary.	ary.	ary.	ary.	ary.	ary.	ber.	ber.	ber.	ber.	minimum
United States:														
1919.....	15,577	14,839	15,051	14,878	14,504	14,650	15,040	15,063	16,238	15,286	16,333	16,876	16,858	86.5
Males.....	9,402	9,029	9,092	8,975	8,723	8,692	8,906	9,248	9,761	9,612	9,927	10,297	10,302	82.8
Females.....	6,175	5,810	5,959	5,903	5,871	5,967	6,083	6,415	6,477	6,274	6,406	6,679	6,356	88.3
1914.....	14,511	16,451	16,832	16,081	15,874	14,733	13,900	12,482	13,424	13,181	13,790	13,801	13,915	73.8
1909.....	16,427	15,302	16,042	16,356	16,281	16,320	16,400	15,903	16,022	16,478	17,108	17,149	17,841	87.1
Connecticut.....	768	741	725	741	750	766	755	770	785	805	794	799	779	90.1
Illinois.....	452	462	404	408	448	447	434	418	445	455	468	491	510	74.0
Iowa.....	2,091	2,040	2,070	2,145	1,970	1,939	1,059	1,983	2,030	2,005	2,164	2,284	2,497	77.7
Massachusetts.....	385	320	329	349	362	377	389	422	408	404	417	425	418	75.3
New Jersey.....	2,570	2,340	2,345	2,390	2,436	2,497	2,567	2,630	2,712	2,689	2,700	2,764	2,752	84.7
New York.....	6,568	6,037	6,301	6,319	6,304	6,367	6,463	6,758	7,000	6,774	6,860	7,016	6,617	86.0
Pennsylvania.....	807	813	852	748	744	765	808	819	845	754	833	855	853	87.0
States showing large proportion of females.														Per et.
Connecticut.....	355	338	333	347	361	366	357	361	370	374	356	356	341	46.2
Iowa.....	768	733	776	783	758	769	742	766	730	711	783	818	857	36.7
New Jersey.....	824	735	722	760	758	817	833	852	870	876	878	886	801	32.1
New York.....	3,104	2,896	3,015	3,012	2,900	3,022	3,100	3,282	3,249	3,144	3,182	3,295	3,081	47.3
Pennsylvania.....	292	331	349	262	267	267	285	300	309	271	296	294	273	36.2

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States.....	1919	15,577	1,901	152	4,719	3,880	1,475	2,442	1,004	4
	1914	14,511	(2)	(2)	388	2,506	5,130	4,978	1,508	1
	1909	16,427	(2)	(2)	211	934	1,736	10,306	2,960	280
Connecticut.....	1919	768	32	.....	71	72	.....	593	.....	.....
	1914	1,063	.....	.....	.....	170	59	834	.....	.....
Illinois.....	1919	452	45	36	106	55	74	91	45	.....
	1914	696	(2)	(2)	67	182	89	77	281	.....
Iowa.....	1919	2,091	45	2	1	615	333	980	102	4
	1914	2,406	(2)	(2)	3	362	664	824	553	.....
Massachusetts.....	1919	385	68	.....	90	199	28	.....	65	.....
	1914	485	.....	.....	40	380	.....	.....	.....	.....
New Jersey.....	1919	2,570	40	.....	974	1,057	361	138	.....	.....
	1914	1,778	(2)	.....	74	59	165	1,472	3	.....
New York.....	1919	6,568	1,587	109	2,421	1,632	168	301	350	.....
	1914	5,223	(2)	(2)	194	852	3,273	902	2	.....
Pennsylvania.....	1919	807	27	4	275	60	391	19	31	.....
	1914	1,154	(2)	(2)	2	587	149	279	137	.....

<sup>1</sup> Includes 48 and under for 1914 and 1909.

\* Corresponding figures not available.

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TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—															
	Establishments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.	
			Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	
United States:																		
1919.....	557	15,577																
1914.....	517	14,511	43	212	490	147	1,870	80	2,552	39	2,766	28	4,311	6	1,956	2	1,614	
1914.....			18	213	528	117	1,304	93	2,970	45	3,238	23	3,539	7	2,355	1	577	
Connecticut.....	16	768	1	6	15	1	19	5	174	1	80	1	194	1	286	.....	.....	
Illinois.....	33	452	4	10	17	12	159	4	105	3	171	.....	.....	.....	.....	.....	.....	
Iowa.....	77	2,091	4	28	70	24	294	9	282	5	367	7	1,078	.....	.....	.....	.....	
Massachusetts.....	17	385	7	20	4	42	3	103	3	220	.....	.....	.....	.....	.....	.....	.....	
New Jersey.....	70	2,570	2	19	41	21	333	13	381	9	704	5	766	1	355	.....	.....	
New York.....	243	6,568	27	115	261	49	580	26	848	11	771	10	1,518	3	976	2	1,614	
Pennsylvania.....	24	807	.....	7	20	8	113	4	184	2	140	3	301	.....	.....	.....	.....	

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
	Establishments.	Establishments.	Establishments.	Wage earners.	Wage earners.	Wage earners.	\$	\$	\$	\$	\$	\$
All classes.....	557	517	444	15,577	14,511	16,427	\$41,840,450	\$20,711,979	\$22,708,065	\$25,095,102	\$12,009,770	\$13,106,774
Less than \$5,000.....	122	160	120	133	204	250	327,207	412,654	299,831	244,024	200,533	211,923
\$5,000 to \$20,000.....	162	162	145	684	1,498	1,312	1,674,282	1,736,116	1,537,671	1,100,007	1,119,357	993,337
\$20,000 to \$100,000.....	181	144	121	3,650	5,133	4,801	8,298,406	6,196,609	5,653,390	5,099,497	3,613,081	3,430,368
\$100,000 to \$500,000.....	73	38	38	{ 5,683	{ 7,506	10,064	{ 11,810,593	{ 9,350,072	{ 15,217,173	{ 9,053,610	{ 6,706,152	{ 8,936,808
\$500,000 to \$1,000,000.....	16	4	38	{ 3,514	{ 1,908	.....	{ 11,802,287	{ 3,016,498	.....	{ 2,821,312	{ 5,2	{ 8,581,146
\$1,000,000 and over.....	3	.....	.....	.....	.....	.....	4,927,684	.....	.....	.....	.....	.....
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	21.9	32.7	27.0	0.0	2.0	1.5	0.8	2.0	1.3	1.0	2.4	1.6
\$5,000 to \$20,000.....	29.1	31.3	32.7	4.4	10.3	8.0	4.0	8.4	6.8	4.4	9.3	7.6
\$20,000 to \$100,000.....	32.5	27.9	27.3	23.4	35.4	20.2	10.8	29.0	24.9	20.2	30.1	20.0
\$100,000 to \$500,000.....	13.1	7.3	7.3	{ 30.5	{ 52.3	61.3	{ 35.4	{ 45.1	{ 36.1	{ 27.1	{ 58.2	64.8
\$500,000 to \$1,000,000.....	2.9	0.8	13.0	{ 22.6	.....	.....	{ 23.2	{ 14.6	67.0	{ 11.2	.....	.....
\$1,000,000 and over.....	0.5	.....	.....	12.2	.....	.....	11.8	.....	.....	.....	.....	.....

TABLE 8.—CHARACTER OF OWNERSHIP: 1919 AND 1914.

CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacturer.	CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacturer.
All classes.....	1919	557	15,577	\$41,840,450	\$25,095,102	Per cent of total:					
	1914	517	14,511	\$20,711,979	\$12,009,770	Individual.....	1919	45.8	13.7	14.0	13.7
Individual.....	1919	255	2,130	5,849,799	3,430,573		1914	45.5	15.9	14.5	15.7
	1914	235	2,303	3,011,007	1,887,155	Corporation.....	1919	30.0	75.5	74.3	74.8
Corporation.....	1919	167	11,760	31,108,265	18,779,195		1914	28.0	69.1	70.1	70.0
	1914	145	10,021	14,624,049	8,412,066	All other.....	1919	24.2	10.8	11.7	11.5
All other.....	1919	135	1,687	4,882,305	2,885,334		1914	26.5	15.0	15.3	14.2
	1914	137	2,182	3,175,123	1,710,558	.....	.....	.....	.....	.....	.....

## MANUFACTURES.

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	1,104	734	505	16,201	14,398	12,831	100.0	100.0	100.0
Owned.....	142	200	216	7,589	10,058	9,235	46.8	69.8	72.0
Steam <sup>1</sup> .....	65	97	110	6,275	8,838	7,602	38.7	61.4	59.2
Engines.....	64	(2)	(2)	5,975	(2)	(2)	36.0	.....	.....
Turbines.....	1	(2)	(2)	300	(2)	(2)	1.9	.....	.....
Internal-combustion engines.....	71	93	92	1,047	826	783	6.5	5.7	6.1
Water wheels and turbines.....	6	10	14	267	394	850	1.6	2.7	6.6
Rented.....	962	534	289	8,612	4,340	3,596	53.2	30.1	28.0
Electric.....	962	534	289	8,117	3,951	2,833	50.1	27.4	22.1
Other.....	.....	.....	.....	495	389	763	3.1	2.7	5.0
Electric.....	909	650	362	8,715	5,016	3,416	100.0	100.0	100.0
Rented.....	902	534	289	8,117	3,951	2,833	93.1	78.8	82.9
Generated by establishments reporting.....	37	116	73	598	1,065	583	6.0	21.2	17.1

<sup>1</sup> Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.<sup>2</sup> Not reported separately.

TABLE 10.—FUEL CONSUMED: 1919 AND 1914.

KIND.	QUANTITY.		KIND.	QUANTITY.	
	1919	1914		1919	1914
Coal.....	54,961	50,445	Fuel oils (barrels).....	625	7,005
Anthracite (tons, 2,240 pounds).....	7,094	9,763	Gasoline and other volatile oils (barrels).....	795	(1)
Bituminous (tons, 2,000 pounds).....	47,867	40,682	Gas (1,000 cubic feet).....	29,570	31,402
Coke (tons, 2,000 pounds).....	188	53			

<sup>1</sup> Included in figures for fuel oils.

## SPECIAL STATISTICS.

Products, classified according to kind and to materials used.—Certain additional detailed information concerning the quantity and value of products for the industry was collected by means of supplemental schedules, data for which are presented in Table 11.

Plain and fancy buttons for fastenings and for ornamentation are manufactured in all sizes and styles and from many kinds of materials. In 1919, as in 1914,

buttons made from "pearl or shell" were first in importance, measured by value of products and quantity produced, representing 42.7 per cent and 43.3 per cent, respectively, of the total for the industry.

During the five-year period 1914–1919 there was an increase of 10.7 per cent in the total quantity, while the value of all buttons manufactured increased 114.3 per cent.

TABLE 11.—DETAILED STATISTICS OF QUANTITY AND VALUE: 1919 AND 1914.

	1919		1914			1919		1914	
	Quantity (gross).	Value.	Quantity (gross).	Value.		Quantity (gross).	Value.	Quantity (gross).	Value.
Products, total value <sup>1</sup> .....	.....	\$41,840,450	.....	.....	Buttons—Continued.				
Buttons.....	68,981,823	34,556,797	62,318,824	16,121,873	Pearl or shell—				
Bone.....	2,170,800	509,165	2,198,946	329,934	Fresh-water.....	23,969,125	8,190,639	21,604,436	4,870,844
Celluloid, plastic.....	2,210,181	3,323,148	623,169	724,354	Ocean.....	5,892,344	6,564,105	4,510,960	2,489,384
Collar and cuff.....	974,140	80,114	1,771,053	56,251	5,295,169	632,217	15,520,037	610,790	
Glass.....	570,949	260,948	217,224	100,201	Covered.....	2,871,980	1,760,162	3,017,486	1,800,178
Horn.....	2,574,822	1,110,957	537,096	299,487	Trouser.....	8,113,327	2,811,901	6,094,795	2,337,050
Metal (not including trouser, or collar and cuff)—					Ivory or vegetable ivory (not including trouser).....	7,835,296	7,676,455	3,221,163	1,842,760
Dress or uniform.....	338,026	433,888	257,823	283,352	Others, not specified.....	5,732,317	1,001,915	1,403,937	306,160
All other.....	433,341	183,093	614,740	172,133	Parts of buttons.....	3,554,122	1,060,705	388,201	111,325
					Blanks or molds.....	13,092,734	3,091,971	14,304,148	2,349,406
					Snap fasteners and clasps <sup>2</sup> .....	377,768	193,054	1,150,046	411,385
					All other products.....	2,928,932	.....	1,717,990	.....

<sup>1</sup> In addition, in 1919, buttons to the value of \$1,147,693 were manufactured by establishments engaged primarily in other industries; and, in 1914, to the value of \$482,061.<sup>2</sup> In 1919 approximately 2,122,000 great gross of snap fasteners were reported by manufacturers of needles, pins, and hooks and eyes, and, in 1914, 260,000 great gross.



## MANUFACTURES.

TABLE 13.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establish- ments	PERSONS ENGAGED IN THE INDUSTRY.						WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.								
		Total.	Propri- etors and firm mem- bers.	Salaried offi- cers, super- intendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.		Capital.	Salaries and wages.							
					Male.	Fe- male.	Aver- age num- ber.	Number, 15th day of—		Male.	Fe- male.	Male.	Fe- male.		Officials.	Clerks, etc.						
United States....	557	17,758	575	642	471	493	15,577	No 16,876	Ap 14,594	17,398	10,615	6,475	110	198	\$29,977,973	\$1,993,905	\$1,355,303					
California.....	7	45	7	3	-----	1	34	Ap 1	35	No 1	32	9	26	-----	81,272	3,600	720					
Connecticut.....	16	898	17	48	31	34	708	Se	805	Fe	725	786	417	306	2,128,349	140,821	85,060					
Illinois.....	33	524	35	25	6	6	452	De	546	Fe	404	551	387	159	2	56,058	26,385	1,300				
Indiana.....	14	306	27	15	2	1	261	De	318	My	209	313	294	19	256,076	16,608	-----					
Iowa.....	77	2,347	77	83	62	34	2,091	De	2,497	My	1,930	2,575	1,686	801	23	65	4,795,360	239,687	150,925			
Kentucky.....	5	112	4	5	2	2	99	No	131	Ja	68	128	110	18	-----	135,329	14,833	10,115				
Massachusetts.....	17	438	17	18	5	13	385	No	425	Ja	320	420	204	201	7	8	786,188	47,263	15,614			
Minnesota.....	5	93	6	2	1	-----	64	De	82	Ap	31	83	78	5	-----	70,798	2,598	-----				
Missouri.....	9	265	5	14	8	3	235	Ja	317	My	179	309	274	34	1	-----	309,397	20,370	4,346			
New Jersey.....	70	2,789	60	94	43	22	2,570	No	2,764	Ja	2,340	2,725	1,823	865	16	21	3,933,849	340,212	88,340			
New York.....	243	7,967	272	243	250	334	6,508	No	7,016	Ja	6,037	8,994	3,686	3,230	26	43	11,487,051	775,578	798,051			
Ohio.....	6	125	3	5	1	2	114	Ja	139	My	65	145	127	18	-----	182,125	7,004	3,679				
Pennsylvania.....	24	904	24	36	26	11	807	No	855	Ap	744	927	557	347	6	17	1,553,839	202,657	52,648			
Rhode Island.....	3	40	3	2	2	-----	33	My	39	No	28	29	18	10	-----	89,363	4,160	2,850				
All other states <sup>3</sup> ....	25	1,225	13	49	32	30	1,101	-----	-----	-----	-----	1,373	945	422	6	-----	3,558,802	110,420	107,098			
EXPENSES—continued.																POWER.						
STATE.	Salaries and wages—Con.	Rent and taxes.						For materials.						Value added by manufacture.	Primary horsepower.							
		Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Value of products.	Total.	Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>4</sup>		Owned.							
															Steam	Turbines.	Internal	Water	Rent-	Electric		
United States....																engines (not turbines).	turbines.	combustion engines.	power. <sup>4</sup>	ed.	horse-power generated in establishments reporting.	
California.....	26,909	5,820	232	14,788	1,227	66,102	50,090	23	5,975	300	1,047	267	8,612	598	-----	-----	-----	-----	-----	23	-----	
Connecticut.....	654,295	10,051	5,549	95,879	624,228	40,254	1,955,701	1,291,219	1,154	300	-----	69	267	434	12	-----	-----	-----	-----	-----	-----	
Illinois.....	357,257	3,320	14,430	4,899	384,297	12,603	1,030,452	633,552	393	195	-----	53	148	121	29	-----	-----	-----	-----	-----	-----	
Indiana.....	170,102	3,640	817	1,042	160,868	11,069	408,457	236,520	287	110	-----	86	121	48	-----	-----	-----	-----	-----	-----	-----	
Iowa.....	1,619,448	131,538	16,153	63,696	2,411,221	65,567	5,615,465	3,138,677	2,340	1,595	-----	137	608	7	-----	-----	-----	-----	-----	608	7	
Kentucky.....	59,629	1,041	859	1,935	79,145	4,480	196,284	112,650	91	68	-----	28	4	-----	-----	-----	-----	-----	-----	232	136	
Massachusetts.....	310,987	2,277	9,402	7,145	239,540	22,701	1,017,929	755,688	482	250	-----	250	48	48	-----	-----	-----	-----	-----	4,463	-----	
Minnesota.....	43,505	-----	250	799	35,588	1,330	88,261	51,337	48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Missouri.....	175,833	366	2,125	2,841	154,896	7,954	395,263	232,413	287	215	-----	30	42	-----	-----	-----	-----	-----	-----	42	-----	
New Jersey.....	2,402,061	16,059	87,466	123,853	2,898,051	100,888	7,021,472	4,021,933	2,928	1,260	225	1,043	55	55	55	1,043	225	294	4,463	55	-----	
New York.....	5,349,264	154,125	264,172	280,190	7,196,992	285,688	18,697,967	11,216,287	6,262	1,505	294	1,177	25	25	25	1,177	155	155	1,130	1	-----	
Ohio.....	82,693	-----	1,445	967	72,503	2,257	191,614	116,854	93	25	-----	25	43	43	43	1,411	117	117	117	117	-----	
Pennsylvania.....	1,612,661	4,757	32,205	84,624	935,110	27,071	2,318,556	1,356,375	789	250	300	29	210	360	210	210	210	210	210	360	-----	
Rhode Island.....	16,855	773	4,816	566	42,760	5,548	103,876	55,568	32	-----	-----	32	32	32	32	32	32	32	32	32	32	-----
Washington.....	3,972	90	510	3	3,531	36	14,953	11,386	1	-----	-----	1	-----	1	1	1	1	1	1	1	-----	
All other states <sup>3</sup> ....	986,908	10,178	4,294	67,785	809,716	93,847	2,718,107	1,814,644	1,411	117	117	117	117	117	117	117	117	117	117	117	1,130	

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.<sup>3</sup> All other states embrace: Arkansas, 6 establishments; Kansas, 2; Louisiana, 1; Maine, 2; Michigan, 5; New Hampshire, 1; Oklahoma, 1; Tennessee, 1; Texas, 2; West Virginia, 1; Wisconsin, 3.<sup>4</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).<sup>5</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

# ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.

## GENERAL STATISTICS.

**General character of the industry.**—This industry covers the manufacture of machinery, apparatus, and supplies for use in the generation, transmission, or utilization of electric energy. In addition to generators, transformers, motors, switchboards, and batteries, for its generation, regulation, application, and storage, the general utilization of electricity for supplying power, transportation, light, heat, etc., involves the use of a vast variety of electrical manufactures, such as insulated wire and cables, starting and controlling apparatus, telephone and telegraph (including radio) apparatus, incandescent and arc lamps, household and industrial apparatus, electric measuring instruments, and other apparatus, devices, and supplies. Statistics of electric lighting fixtures made in establishments engaged primarily in their manufacture are not included in this report, but are shown separately in the general report on manufactures.

**Comparative summary.**—In Table 1 are summarized the more important data for establishments engaged in this industry, presenting statistics for each census since 1879, with percentages of increase or decrease for each five-year period. With few exceptions, increases are noticeable at each succeeding census, the only decreases shown being in the period 1909 to 1914, in the items, "proprietors and firm members" and "contract work," both of which have little significance.

The large increases, however, from 1914 to 1919, are due in a large measure to conditions brought about by the World War, when high wages and prices affected practically every industry in the country. A truer index to conditions is to be found in the increase in the average number of wage earners and primary horsepower utilized. The addition of the Federal income tax since 1914 will account for the large increase in "Rent and taxes." Contract work, or work performed by employees other than those in the plants reporting, has little significance, since it represents merely the methods of manufacture used by establishments, which vary from year to year.

**Principal states, ranked by value of products.**—New York, as shown by Table 2, is the leading state in the manufacture of electrical machinery, a position it also held at the censuses of 1914, 1909, and 1904. Ohio is second, having advanced from sixth place since 1914. This state made greater strides in the industry during the period 1914–1919 than any other state, its products advancing from \$36,120,978 in 1914 to \$156,924,143 in 1919, equivalent to an increase of 334.4 per cent. Altogether, 42 states, including the District of Columbia, reported establishments belonging to this classifica-

tion, but an idea of how the industry is centralized may be seen from the fact that 6 states, New York, Ohio, Pennsylvania, New Jersey, Illinois, and Massachusetts, together produced 80.3 per cent of the total value of products reported by the industry, and employed 78.1 per cent of the total number of wage earners.

**Persons engaged in the industry.**—The classification by sex, for 1919, was reported separately, but for 1914 and 1909 was obtained in the same manner as the distribution by age. The age classification of the average number of wage earners in Table 3 is an estimate, obtained by the method described in the "Explanation of terms." Figures by states will be found in Table 26.

**Wage earners, by months.**—The statistics for wage earners in Table 4 show the regularity of employment, or the reverse, in accordance with existing industrial conditions during the census year reported. The number employed in the industry during 1919 ranged from a maximum of 241,640 in December to a minimum of 196,418 in May, the minimum number being equivalent to 81.3 per cent of the maximum. Figures for the principal states are given separately for 1919, while, for the United States, totals are given for 1909 and 1914, and a segregation of sex for 1919.

**Prevailing hours of labor.**—Table 5 shows a marked shortening of the working day for the industry since 1914. In that year only 29.3 per cent of the wage earners were reported as being employed less than 54 hours per week, as against 84 per cent in 1919. In 1914 wage earners working over 54 hours per week constituted 37.8 per cent of the total, as compared with 10.8 per cent in 1919.

**Size of establishments, by average number of wage earners.**—Analysis of Table 6 discloses the significant fact that in 1919, 418 establishments, or 29.8 per cent of the total, employed less than 6 wage earners each, while only 1,087, or one-half of 1 per cent of the total number of wage earners, were employed therein. On the other hand, the class "Over 1,000," comprising 37 establishments, employed 53.5 per cent of the total number of wage earners, illustrating the extent of manufacturing operations in a few large establishments.

**Size of establishments, by value of products.**—At the censuses of 1909 and 1914, establishments with products ranging in total value from "\$100,000 to \$1,000,000" constituted one group, while in 1919 this group was subdivided into groups of "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and the value of products have been compiled, however, from the 1914 reports. Table 7, therefore, gives combined figures for all items

for 1909, and, in the case of average number of wage earners, the value added by manufacture for 1914. The statistics in the table show the degree of concentration of production in large establishments. In 1919 the group "\$1,000,000 and over" included 182 establishments, or 13 per cent of the total number for the industry, employed 79.7 per cent of the total number of wage earners, and reported 82.1 per cent of the total value of products.

**Character of ownership.**—Table 8 emphasizes the predominance of the corporate form of ownership. Corporations owned 75.9 per cent of the total number of establishments reporting, employed 98.7 per cent of the wage earners, and reported 98.6 per cent of the total value of products. During the period 1914-1919 the average number of wage earners employed by corporations increased by 94,619, or 82.2 per cent, and the value of products \$657,122,181, or 201.3 per cent.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. <sup>1</sup>							
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889		
Number of establishments.....	1,404	1,030	1,009	784	581	189	70	36.3	2.1	28.7	34.9	207.4	.....		
Persons engaged.....	271,912	144,712	105,600	71,485	(3)	(2)	(2)	87.9	37.0	47.7	.....				
Proprietors and firm members.....	473	388	439	400	(4)	(3)	(3)	28.5	-16.2	9.8	.....				
Salaried employees.....	59,065	26,206	17,005	10,619	5,067	(2)	(2)	124.9	46.7	68.6	109.6	.....			
Wage earners (average number).....	212,374	118,078	87,256	60,406	42,013	8,802	1,271	79.9	35.3	44.3	43.9	377.3	.....		
Primary horsepower.....	438,839	227,731	155,768	105,376	48,674	7,494	(2)	92.7	43.4	50.7	141.3	.....			
Capital.....	\$857,855,496	\$355,724,756	\$287,844,432	\$174,068,026	\$83,659,024	\$18,997,337	\$1,509,758	141.2	32.8	53.9	108.1	340.4	1,153.3	.....	
Salaries and wages.....	336,369,291	109,097,610	69,574,540	42,932,400	25,210,917	5,306,188	683,104	208.3	50.8	62.1	70.3	369.8	885.6	.....	
Salaries.....	98,180,439	35,291,281	20,103,395	11,909,835	4,031,728	(2)	(2)	178.2	74.8	82.1	139.5	.....			
Wages.....	238,188,852	73,800,329	49,381,145	31,841,521	20,579,194	(2)	(2)	222.7	49.5	55.1	54.7	.....			
Paid for contract work.....	1,218,203	200,889	368,049	266,410	(2)	(2)	(2)	318.8	-21.0	38.2	.....				
Rent and taxes (including internal revenue).....	46,357,187	3,286,870	1,962,722	\$ 1,334,837	(3)	(3)	(3)	1,310.4	67.5	47.0	.....				
Cost of materials.....	425,098,211	152,728,076	108,560,404	66,836,926	49,455,272	8,819,498	1,116,470	174.7	42.5	62.4	35.1	460.8	680.9	.....	
Value of products <sup>4</sup> .....	907,098,119	335,170,194	221,305,583	140,809,309	92,434,435	19,114,714	2,655,036	197.7	51.4	57.2	52.3	388.6	819.9	.....	
Value added by manufacture <sup>5</sup> .....	572,808,908	180,442,118	112,742,159	73,972,493	42,076,163	10,295,216	1,538,566	217.5	60.0	52.4	72.1	317.4	669.1	.....	

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

**Figures not available**

\* Exclusive of internal revenue.  
† In addition, electrical machinery.

<sup>4</sup> In addition, electrical machinery, apparatus, and supplies to the value of \$65,558,178, in 1919; \$24,261,961, in 1914; \$18,728,916, in 1909; \$18,742,063, in 1904; and \$18,397,430, in 1899, were reported by establishments engaged primarily in other industries.

- Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

# ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.

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TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Cen-	Total.	Male.	Fe-	PER CENT OF TOTAL.		CLASS.	Cen-	Total.	Male.	Fe-	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	271,912	196,023	75,889	72.1	27.9	Clerks and other subordinate salaried employees.	1919	48,364	29,233	19,131	60.4	39.6
	1914	144,712	114,742	29,970	79.3	20.7		1914	22,388	16,325	8,003	72.9	27.1
	1909	105,800	81,616	23,984	77.3	22.7		1909	14,223	10,431	3,792	73.3	26.7
Proprietors and officials.....	1919	11,174	10,553	321	97.1	2.9	Wage earners (average number)...	1919	212,374	155,937	56,437	73.4	26.6
	1914	4,246	4,164	82	98.1	1.9		1914	118,078	94,253	23,825	79.8	20.2
	1909	4,121	4,055	66	98.4	1.6	16 years of age and over.....	1919	87,256	67,130	20,126	70.0	23.1
Proprietors and firm members.....	1919	473	461	12	97.5	2.5		1919	210,421	154,601	55,820	73.5	26.5
	1914	308	357	11	97.0	3.0		1914	117,364	93,836	23,528	80.0	20.0
	1909	439	428	11	97.5	2.5		1909	88,453	66,622	19,831	77.1	22.9
Salaried officers of corporations	1919	1,882	1,825	57	97.0	3.0	Under 16 years of age.....	1919	1,953	1,336	617	68.4	31.6
	1914	1,165	1,129	38	96.9	3.1		1914	714	417	207	58.4	41.6
	1909	997	979	18	98.2	1.8		1909	803	508	295	63.3	36.7
Superintendents and managers	1919	8,810	8,567	252	97.1	2.9							
	1914	2,713	2,678	35	98.7	1.3							
	1909	2,685	2,648	37	98.6	1.4							

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by **bold-faced** figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.											Percent mini- mum is of maxi- mum.	
		Janu- ary.	Febru- ary.	March.	April.	May.	June.	July.	August.	Septem- ber.	Octo- ber.	Novem- ber.	Decem- ber.	
United States:														
1919.....	212,374	200,593	205,356	201,303	198,318	198,418	198,071	204,180	212,354	218,403	227,409	235,285	241,640	81.3
Males.....	155,937	152,763	150,069	147,042	146,084	146,070	145,752	150,865	156,289	160,140	168,780	172,299	178,161	81.4
Females.....	56,437	50,530	55,287	54,351	52,232	51,943	52,319	53,295	55,085	58,383	60,079	62,988	63,479	80.9
1914.....	118,078	123,766	126,610	126,240	123,742	120,958	118,743	116,340	115,347	113,768	110,944	108,203	107,277	83.3
1909.....	87,256	77,444	79,103	80,779	81,699	83,229	85,117	86,080	88,133	91,822	95,400	99,239	98,868	78.0
California.....	2,008	1,865	1,800	1,837	1,873	1,805	1,804	2,031	2,107	2,084	2,275	2,328	2,280	77.4
Connecticut.....	11,408	10,529	10,411	9,750	9,648	10,163	10,797	11,442	11,706	12,218	12,864	13,466	13,828	69.8
Illinois.....	27,290	26,772	26,804	26,660	25,705	25,868	26,046	26,241	27,346	25,129	29,117	29,637	30,945	82.8
Indiana.....	11,756	9,859	10,177	10,251	10,475	10,943	11,265	12,156	12,771	13,324	13,017	13,621	13,813	72.9
Massachusetts.....	23,889	22,102	22,543	21,716	21,582	22,019	22,353	23,219	24,382	26,256	26,294	27,198	28,024	77.0
Michigan.....	4,190	3,847	3,853	3,845	3,775	3,854	3,928	4,050	4,369	4,493	4,697	4,808	4,661	76.9
Minnesota.....	942	916	925	971	918	918	938	928	942	940	954	967	1,005	91.1
Missouri.....	6,367	6,367	6,367	5,464	5,545	5,750	6,184	6,493	6,779	6,720	7,182	7,380	7,694	69.6
New Jersey.....	26,135	28,285	27,542	26,708	25,983	25,051	24,484	24,299	24,816	25,450	26,061	26,990	27,041	85.9
New York.....	37,508	36,068	37,946	36,923	36,282	36,040	36,589	36,914	36,290	37,175	38,630	40,036	41,333	86.0
Ohio.....	26,072	25,360	25,021	25,262	24,841	22,900	23,970	25,350	27,478	28,277	29,406	30,558	31,551	72.6
Pennsylvania.....	24,228	25,060	24,293	23,551	22,357	21,791	22,088	22,771	23,742	24,833	25,705	27,108	27,817	78.3
Rhode Island.....	1,513	1,695	1,688	1,052	1,507	1,496	1,424	1,348	1,361	1,392	1,452	1,513	1,568	79.5
Wisconsin.....	5,875	6,727	5,671	5,456	5,366	4,945	4,915	5,400	5,830	6,200	6,872	6,981	7,119	69.0
States showing large proportion of females.														
Connecticut.....	4,036	3,643	3,639	3,140	3,078	3,483	3,922	4,115	4,203	4,485	4,832	4,907	5,031	35.4
Illinois.....	7,708	7,381	7,448	7,338	7,343	7,401	7,365	7,295	7,745	8,016	8,319	8,556	8,839	28.6
Indiana.....	3,508	3,283	3,336	3,281	3,321	3,431	3,324	3,519	3,803	3,914	3,821	3,992	3,791	30.4
Massachusetts.....	5,994	5,669	5,711	5,507	5,303	5,378	5,601	5,730	6,103	6,393	6,707	6,958	6,968	25.1
Michigan.....	1,638	1,482	1,488	1,502	1,491	1,512	1,520	1,559	1,710	1,776	1,848	2,027	1,783	30.1
Missouri.....	1,887	1,783	1,674	1,725	1,670	1,705	1,871	1,933	2,030	2,028	2,023	2,008	2,139	29.6
New Jersey.....	8,817	8,723	8,506	9,388	8,871	8,588	8,326	8,222	8,211	8,427	8,590	8,889	9,005	33.7
Ohio.....	7,841	7,231	7,142	7,529	6,902	6,118	6,727	6,737	7,494	7,841	7,953	8,131	8,222	27.5

## MANUFACTURES.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States.....	1919	212,374	19,533	7,722	98,016	53,203	10,885	19,783	3,028	204
	1914	118,078	(2)	(2)	4,078	30,529	88,838	41,715	2,899	19
	1909	87,256	(2)	(2)	1,114	13,900	20,781	45,588	5,874	40
California.....	1919	2,008	1,005	4	336	656	7	-----	-----	-----
	1914	780	(2)	(2)	224	152	364	40	-----	-----
Connecticut.....	1919	11,403	704	11	2,385	1,628	262	6,410	8	-----
	1914	5,059	(2)	(2)	4	695	735	8,625	-----	-----
Illinois.....	1919	27,290	1,227	309	17,856	5,639	1,775	474	10	-----
	1914	16,483	(2)	(2)	352	14,680	750	687	14	-----
Indiana.....	1919	11,756	133	870	7,666	1,888	172	995	32	-----
	1914	4,075	(2)	(2)	1,025	117	6	2,854	73	-----
Massachusetts.....	1919	23,880	250	878	19,380	3,060	112	30	170	-----
	1914	17,125	(2)	(2)	637	2,205	10,519	3,763	1	-----
Michigan.....	1919	4,100	16	47	453	2,461	370	515	128	200
	1914	1,144	(2)	(2)	73	118	471	277	205	-----
Minnesota.....	1919	942	39	-----	14	404	68	417	-----	1
	1914	236	(2)	(2)	19	76	18	122	-----	-----
Missouri.....	1919	6,367	5	658	992	1,806	2,902	-----	4	-----
	1914	2,560	(2)	(2)	329	424	1,751	52	4	-----
New Jersey.....	1919	26,185	2,043	4,394	13,470	4,298	66	1,255	-----	-----
	1914	14,405	(2)	(2)	262	3,638	4,878	5,223	404	-----
New York.....	1919	37,593	10,747	126	12,816	9,672	2,139	1,540	558	-----
	1914	23,738	(2)	(2)	348	3,828	3,703	16,145	696	18
Ohio.....	1919	26,072	786	862	6,836	10,998	722	5,468	2,050	-----
	1914	12,695	(2)	(2)	657	3,850	4,098	3,795	295	-----
Pennsylvania.....	1919	24,228	301	41	12,491	7,945	1,891	1,552	3	4
	1914	14,386	(2)	(2)	80	458	10,331	3,621	396	-----
Rhode Island.....	1919	1,513	144	-----	14	1,154	82	119	-----	-----
	1914	1,581	-----	-----	-----	34	417	595	535	-----
Wisconsin.....	1919	5,875	1,318	-----	2,951	1,098	111	407	-----	-----
	1914	2,115	(2)	(2)	3	66	685	1,345	26	-----

<sup>1</sup> Includes 48 and under for 1914 and 1909.

<sup>2</sup> Corresponding figures not available.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
	Establishments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 wage earners.	
			Establish- ments.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	Establish- ments.	Wage earners.	
United States..	1919.	1,404	212,374	42	376	1,087	355	4,212	212	7,220	117	8,539	147	23,862	80	27,812	38	25,947	37	113,695
	1914.	1,030	118,078	35	307	831	263	3,108	150	4,720	98	6,080	95	15,031	45	15,183	20	13,874	17	58,351
California.....		73	2,008	4	41	124	15	169	6	175	4	282	11	1,730	2	748	1	510	—	—
Connecticut.....		54	11,403	3	13	38	8	88	4	141	4	230	18	2,802	5	1,713	4	2,525	2	4,983
Illinois.....		161	27,290	4	33	90	16	568	23	888	21	1,544	18	2,367	4	2,731	5	10,294	—	—
Indiana.....		47	11,756	—	10	26	13	163	5	198	6	471	6	981	2	669	2	1,287	3	7,681
Massachusetts.....		110	23,889	3	21	71	32	303	17	555	15	1,084	10	1,688	6	1,948	2	1,261	4	10,939
Michigan.....		54	4,190	2	15	42	13	171	6	254	7	573	8	1,260	2	658	—	—	1	1,292
Minnesota.....		20	942	2	6	23	5	52	2	55	3	173	—	—	—	639	—	—	—	—
Missouri.....		36	6,307	—	4	12	12	125	5	167	4	286	5	695	2	638	2	1,570	1	2,874
New Jersey.....		105	26,135	16	41	24	335	20	745	6	434	14	2,433	11	3,938	6	4,037	8	14,174	
New York.....		255	37,598	9	69	173	66	756	46	1,462	17	1,325	21	3,613	17	6,046	6	4,288	4	19,935
Ohio.....		189	26,672	5	48	144	40	466	38	1,311	11	798	25	4,142	11	3,762	5	3,503	6	12,511
Pennsylvania.....		129	24,223	5	41	116	33	390	18	614	5	359	15	2,367	6	1,992	4	2,890	2	15,500
Rhode Island.....		13	1,513	—	4	16	1	14	2	52	2	179	1	138	3	1,114	—	—	—	—
Wisconsin.....		43	5,875	—	11	28	7	75	5	183	5	358	9	1,365	3	1,244	2	1,340	1	1,327

# ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.

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TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
	All classes.....	1,404	1,030	1,009	212,374	118,078	87,256	\$997,968,110	\$335,170,194	\$221,308,563	\$572,869,908	\$180,442,118
Less than \$5,000.....	89	156	150	80	204	256	252,664	44,280	395,175	151,102	254,658	234,883
\$5,000 to \$20,000.....	271	249	237	982	1,329	1,493	3,293,668	2,786,085	3,208,373	1,892,140	1,715,601	1,924,861
\$20,000 to \$100,000.....	422	292	309	5,616	5,887	6,474	20,520,023	14,211,891	14,718,392	11,525,344	7,951,750	8,456,336
\$100,000 to \$500,000.....	381	224	232	{ 18,084	{ 18,264	{ 28,103	{ 77,234,924	{ 51,612,977	{ 77,577,378	{ 41,473,572	{ 43,650,088	{ 49,290,339
\$500,000 to \$1,000,000.....	109	56	31	169,348	77,455	50,925	819,089,172	226,203,104	126,375,340	474,177,602	121,229,707	41,436,270
\$1,000,000 and over.....	182	53	31									60,089,810
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	6.3	15.1	14.9	.....	0.2	0.3	.....	0.1	0.2	.....	0.1	0.2
\$5,000 to \$20,000.....	19.3	24.2	28.4	0.5	1.1	1.7	0.3	0.8	1.5	0.3	1.0	1.7
\$20,000 to \$100,000.....	30.1	28.4	30.6	2.6	5.0	7.4	2.1	4.2	6.6	2.0	4.4	7.5
\$100,000 to \$500,000.....	23.6	21.7	23.0	{ 8.5	{ 8.6	{ 28.1	{ 7.7	{ 15.4	{ 2.0	{ 7.2	{ 27.3	36.8
\$500,000 to \$1,000,000.....	7.8	5.4	7.8	{ 8.6	{ 8.6	{ 32.2	{ 7.8	{ 11.9	{ 34.6	{ 7.6	{ 27.3	36.8
\$1,000,000 and over.....	13.0	5.1	3.1	79.7	65.6	58.4	82.1	67.5	57.1	82.3	67.2	53.8

TABLE 8.—CHARACTER OF OWNERSHIP, BY SELECTED STATES: 1919 AND 1914.

STATE.	Cen-sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—	AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.									
			Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.				
				Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.		Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.		
United States.....	1919	218	1,060	120	212,374	1,009	209,704	1,009	0.8	98.7	0.5	\$997,968,110	\$9,127,570	\$983,623,816	\$5,216,733	0.9	98.6	0.5
	1914	196	753	81	118,078	2,240	115,085	753	1.9	97.5	0.6	335,170,194	6,469,529	320,501,035	2,199,030	1.9	97.4	0.7
	1909	178	720	111	87,256	1,692	84,397	1,167	1.9	96.7	1.3	221,308,563	4,808,980	213,088,053	3,411,521	2.2	96.3	1.5
California.....	1919	28	31	14	2,008	119	1,790	90	5.9	89.6	4.5	11,368,190	603,546	10,382,170	382,480	5.8	91.3	3.4
	1914	7	20	2	780	135	745	.....	4.5	95.5	.....	2,861,653	1,104,090	1,756,987	.....	3.7	96.3	.....
Connecticut.....	1919	5	44	5	11,403	19	11,375	9	0.2	99.8	0.1	51,911,332	68,652	51,810,728	31,952	0.1	99.8	0.1
	1914	5	38	.....	5,050	23	5,036	.....	0.5	99.5	.....	14,330,156	125,908	14,204,248	.....	0.9	99.1	.....
Illinois.....	1919	13	134	14	27,290	47	27,167	76	0.2	99.5	0.3	110,528,022	160,894	118,802,411	555,717	0.1	99.4	0.5
	1914	27	103	12	16,483	125	16,293	72	0.8	98.8	0.4	46,667,456	265,105	45,171,971	230,880	0.6	98.9	0.5
Indiana.....	1919	2	43	2	11,755	11	1,740	2	10	99.9	0.1	41,594,125	8,870,178	41,558,885	2,35,210	0.6	99.0	0.1
	1914	4	35	2	11,755	4,053	4,053	.....	0.5	99.5	.....	1,51,158	8,828,020	.....	.....	0.6	99.4	.....
Massachusetts.....	1919	18	86	6	23,889	109	23,655	35	0.8	99.0	0.1	91,938,738	985,935	90,746,156	206,597	1.1	98.7	0.2
	1914	20	67	4	17,125	260	16,812	53	1.5	98.2	0.3	43,869,294	798,483	42,937,503	138,308	1.8	97.0	0.3
Michigan.....	1919	9	40	5	4,100	84	4,092	14	2.0	97.7	0.3	25,025,528	275,840	24,630,021	89,667	1.1	98.5	0.4
	1914	7	26	2	1,144	150	1,094	.....	4.4	95.6	.....	3,415,500	1,99,993	3,316,507	.....	2.9	97.1	.....
Minnesota <sup>a</sup> .....	1919	1	16	3	942	.....	870	2	63	93.3	6.7	4,353,010	4,171,786	2 182,163	.....	5.6	95.8	4.2
Missouri.....	1919	3	31	1	6,367	165	6,302	.....	1.0	99.0	.....	22,007,658	244,407	21,763,191	.....	1.1	98.9	.....
	1914	7	12	.....	2,580	321	2,393	.....	12.5	87.5	.....	6,643,210	350,782	6,283,428	.....	5.4	94.6	.....
New Jersey.....	1919	7	91	7	26,135	40	26,035	60	0.2	99.6	0.2	120,341,356	186,386	119,546,759	608,211	0.2	99.3	0.5
	1914	12	58	6	14,405	169	14,144	92	1.2	98.2	0.0	40,740,610	615,547	30,706,778	418,485	1.5	97.5	1.0
New York.....	1919	50	184	21	37,598	206	37,185	117	0.8	98.9	0.3	179,972,580	2,204,513	170,916,881	701,186	1.3	98.3	0.4
	1914	50	151	14	23,738	563	23,079	106	2.3	97.2	0.5	73,044,708	1,637,412	71,000,474	816,822	2.2	97.4	0.4
Ohio.....	1919	26	151	12	26,672	170	26,329	164	0.7	98.7	0.6	150,924,143	828,705	155,881,886	713,808	0.5	99.0	0.5
	1914	20	87	12	12,095	88	12,482	125	0.7	98.3	1.0	30,120,078	257,038	30,520,772	843,168	0.7	98.3	1.0
Pennsylvania.....	1919	26	87	16	24,228	323	23,788	117	1.3	98.2	0.5	132,673,856	2,777,588	129,270,238	617,030	2.1	97.4	0.5
	1914	16	73	16	14,860	480	14,243	153	3.2	95.8	1.0	44,395,783	1,058,552	42,071,501	365,736	4.4	94.8	0.8
Rhode Island.....	1919	2	9	2	1,513	141	1,472	.....	2.7	97.3	.....	7,566,790	1,124,974	7,441,816	.....	1.7	98.3	.....
	1914	2	10	1	1,581	136	1,545	.....	2.3	97.7	.....	5,469,085	1,77,207	5,390,858	.....	1.4	98.6	.....
Wisconsin.....	1919	3	37	3	5,875	9	5,828	38	0.2	99.2	0.6	23,036,473	58,043	23,375,787	202,693	0.2	98.9	0.0
	1914	4	24	1	2,115	14	2,101	.....	0.7	99.3	.....	5,306,302	1,62,264	5,344,538	.....	1.0	99.0	.....

<sup>1</sup> Includes the group "All others."

<sup>2</sup> Includes the group "Individuals."

<sup>3</sup> Not shown separately in 1914.

## MANUFACTURES.

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	42,468	17,572	6,596	438,839	227,781	158,768	100.0	100.0	100.0
Owned.....	445	550	601	202,477	151,844	107,764	46.1	69.7	67.9
Steam.....	325	350	410	183,231	142,085	99,897	44.0	62.4	62.9
Engines.....	274	(2)	(2)	62,000	(2)	(2)	14.1	-----	-----
Turbines.....	51	(2)	(2)	131,231	(2)	(2)	29.9	-----	-----
Internal-combustion engines.....	103	181	186	7,446	8,694	6,753	1.7	3.8	4.3
Water wheels, turbines, and motors.....	17	19	25	1,800	1,065	1,114	0.4	0.5	0.7
Rented.....	42,023	17,022	5,995	236,362	75,887	51,004	53.9	33.3	32.1
Electric.....	42,023	17,022	5,995	235,605	74,476	50,045	53.7	32.7	31.5
Other.....				757	1,411	959	0.2	0.6	0.6
Electric.....	80,495	30,568	22,650	479,366	282,119	164,540	100.0	100.0	100.0
Rented.....	42,023	17,022	5,995	235,605	74,476	50,045	49.1	28.4	30.4
Generated by establishments reporting.....	38,472	22,546	16,655	243,761	187,643	114,495	50.9	71.6	69.6

<sup>1</sup> Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.<sup>2</sup> Figures not available.

TABLE 10.—FUEL CONSUMED, BY SELECTED STATES: 1919.

STATE.	Cen-sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
		Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).				
United States.....	1919	175,800	1,091,704	61,617	473,332	32,328	2,780,382
	1914	66,841	769,260	26,378	125,523	(1)	2,767,856
California.....	1919			198	3,596	-----	91,769
	1914		60	3	5,402	(1)	3,829
Connecticut.....	1919	7,770	58,243	1,010	9,907	1,276	25,706
	1914	3,074	24,686	27	398	(1)	10,103
Illinois.....	1919	424	124,772	7,002	8,074	4,581	444,098
	1914	159	70,135	6,319	4,970	(1)	320,637
Indiana.....	1919	1,139	53,412	528	7,173	309	110,249
	1914	1,138	24,515	6,000	3,473	(1)	7,984
Massachusetts.....	1919	6,707	95,077	6,125	237,720	9,984	171,830
	1914	1,490	117,165	4,407	18,402	(1)	50,431
Michigan.....	1919	41	10,210	140	16	761	38,846
	1914	15	3,974	308	559	(1)	8,771
Minnesota <sup>2</sup> .....	1919	6	1,395	36	-----	5	35,003
Missouri.....	1919		13,252	428	6,229	208	107,402
	1914		8,799	30	951	(1)	19,231
New Jersey.....	1919	52,844	120,300	721	26,058	9,317	224,893
	1914	29,592	44,084	50	2,930	(1)	107,306
New York.....	1919	37,625	274,014	26,085	92,196	2,627	225,718
	1914	21,362	251,332	3,880	51,188	(1)	142,082
Ohio.....	1919	2,355	104,243	12,880	31,553	1,860	611,664
	1914	81	59,496	1,257	5,407	(1)	1,094,338
Pennsylvania.....	1919	65,866	204,456	5,119	24,177	533	591,494
	1914	3,155	122,889	2,913	20,768	(1)	433,817
Rhode Island.....	1919	309	5,691	8	1,067	118	41,050
	1914	6,612	12,189	54	4,207	(1)	10,420
Wisconsin.....	1919	476	19,929	1,314	21,611	513	42,784
	1914	50	17,156	1,095	628	(1)	98,403

<sup>1</sup> Included in figures for fuel oils.<sup>2</sup> Not reported separately in 1914.

## SPECIAL STATISTICS.

Certain additional information concerning the quantity and value of products for the industry is collected by means of supplemental schedules. In the foregoing tables statistics are presented for only those establishments engaged primarily in the manufacture of electrical machinery, apparatus, and supplies. There is, however, a certain amount of this class of product manufactured in establishments classified under other industry captions.

**Detailed statistics of values.**—In order to present full detailed statistics for the industry, the subsidiary electrical products of these establishments have been included in Table 11. This table summarizes in comparative form, for the past four census periods, the values of the various groups of electrical commodities. Porcelain electrical supplies manufactured in the clay-working industries and globes and jars accredited to the glass industry are not included; statistics for these items will be found in the general figures for the industries named.

In comparing statistics of the different censuses, allowances should be made, particularly in the case of some of the less distinctive products, for changes in the form of the schedule used and for the possibility that all manufacturers did not classify their products in the same way.

The more important classes of products are treated separately in tables presenting statistics of production in detail.

TABLE 11.—DETAILED STATISTICS OF VALUES: 1919, 1914, 1909, AND 1904.

KIND.	1919	1914	1909	1904
Products, total value.....	\$1,063,526,297	\$369,432,155	\$240,037,479	\$150,551,402
The electrical industry—Electrical machinery and apparatus.....	997,968,119	335,170,194	221,308,563	140,809,369
Subsidiary electrical products of other industries.....	65,558,178	24,261,961	18,728,016	18,742,033
<i>Principal groups.</i>				
Generating apparatus and parts.	86,206,114	17,865,542	14,077,071	11,084,234
Transformers and feeder potential regulators.....	53,495,570	28,276,338	14,630,715	7,142,026
Motors (not including starters or controllers).....	116,893,638	44,176,235	32,087,482	22,370,626
Electric locomotives, mining, industrial, and railway.....	8,159,825	3,720,914	(1)	(1)
Batteries, storage.....	60,036,152	13,080,964	4,678,209	2,645,749
Batteries, primary.....	32,427,043	10,321,491	8,934,261	1,508,144
Carbons: Furnace, lighting, and welding; brushes, battery and miscellaneous.....	18,291,615	3,602,741	1,934,864	2,710,035
Arc lamps.....	606,771	742,142	1,706,959	1,574,422
Searchlights, projectors, and focusing lamps.....	4,342,246	2,081,545	985,874	114,795
Incandescent lamps.....	57,640,900	17,350,385	15,714,800	6,053,205
Rectifying apparatus, including rotating commutators, electric valves, mercury rectifiers, and vibrating commutators.....	1,964,876	147,965	(1)	(1)
Telegraph apparatus.....	12,816,341	2,248,375	1,957,432	1,111,194
Telephone apparatus.....	46,214,342	22,815,640	14,259,357	15,863,698
Household and industrial apparatus and devices.....	54,793,195	4,048,915	1,954,112	395,827
Electric measuring instruments.....	19,322,164	8,786,606	7,800,010	5,004,763
Magnetoignition apparatus.....	51,286,793	22,260,847	6,092,343	678,077

TABLE 11.—DETAILED STATISTICS OF VALUES: 1919, 1914, 1909, AND 1904—Continued.

KIND.	1919	1914	1909	1904
<i>Miscellaneous electrical machinery, apparatus, and supplies.</i>				
Switchboards, panel boards, and cut-out cabinets for light and power.....	\$17,735,780	\$8,989,111	\$5,971,804	\$3,768,044
Railway switches, signals, and attachments.....	4,466,611	2,630,551	2,537,843	2,451,337
Circuit breakers, oil.....	2,733,535	(8)	(8)	(8)
Circuit breakers, air and carbon.....	1,391,911	(8)	(8)	(8)
Fuses, cut-outs, and fuse plugs.....	2,805,098	1,757,430	1,001,719	868,079
Insulators.....	6,504,147	(8)	(8)	(8)
Sockets, receptacles, bases, and attachment plugs.....	15,008,365	5,512,000	4,521,720	2,010,860
Wiring supplies (current carrier).....	6,857,819	(8)	(8)	(8)
Lightning arresters, choke coils, reactors, and other protective devices.....	2,853,416	1,188,773	940,171	587,124
Insulated wire.....	67,378,732			
Insulated cables, rubber insulation.....	34,314,305	60,505,573	51,624,737	34,519,690
Insulated cables, paper insulation.....	26,789,302			
Pole-line hardware.....	9,879,145	(8)	(8)	(8)
Circuit fittings, not elsewhere provided for.....	5,052,994	2,087,683	1,080,287	3,525,448
Underground conduits.....	890,749	4,874,709	5,098,284	2,416,245
Interior conduits.....	18,375,880			
Electric lighting fixtures of all kinds <sup>4</sup> .....	2,703,266	3,383,955	2,200,668	8,294,606
Annunciators and push buttons.....	709,941	263,806	235,507	185,870
Electric clocks and time mechanisms.....	1,797,900	410,774	352,513	373,026
Bells, buzzers, and signal gongs.....	3,616,281	(8)	(8)	(8)
Therapeutic apparatus, including X-ray tubes.....	8,805,402	2,053,098	1,107,858	1,036,962
All other electrical machinery, apparatus, and supplies.....	95,232,300	27,276,204	18,995,170	
All other products.....	70,573,808	17,951,652	17,765,645	26,207,509
Amount received for custom work and repairing.....	27,106,016	5,670,592		

<sup>1</sup> Figures not available.

<sup>2</sup> Reported as "Electric switches, signals, and attachments."

<sup>3</sup> Not reported separately.

<sup>4</sup> Not including fixtures made by establishments engaged primarily in the manufacture of "Gas and electric fixtures."

**Subsidiary electrical products.**—Table 12 shows, for 1919, 1914, and 1909, the value of the various kinds of electrical apparatus included in the totals shown in Table 11, which were manufactured as subsidiary products by establishments in other industries.

TABLE 12.—SUBSIDIARY ELECTRICAL PRODUCTS OF OTHER INDUSTRIES: 1919, 1914, AND 1909.

KIND.	1919	1914	1909
Number of establishments.....	177	91	142
Total value.....	\$85,558,178	\$24,261,961	\$18,728,916
Generating apparatus and parts.....	2,353,520	1,363,723	1,751,122
Transformers and feeder potential regulators.....	1,169,175	473,538	377,845
Motors (not including starters or controllers).....	1,490,686	900,688	1,213,761
Batteries, storage and primary.....	166,033	(1)	(1)
Searchlights, projectors, and focusing lamps.....	1,435,711	(1)	(1)
Telegraph apparatus.....	113,313	(1)	(1)
Household and industrial apparatus and devices.....	1,897,059	(1)	(1)
Electric measuring instruments.....	118,249	(1)	(1)
Magnetoignition apparatus.....	1,534,998	105,541	70,188
Insulators.....	865,727	(2)	(2)
Insulated wire and cables.....	51,198,300	18,183,904	11,374,165
All other electrical machinery, apparatus, and supplies.....	3,212,712	3,234,512	3,932,840

<sup>1</sup> Included in "All other electrical machinery."

<sup>2</sup> Not reported separately.

**Generating apparatus and parts.**—Table 13 shows detailed figures, for 1919 and 1914, regarding generating apparatus. A remarkable development is found in this item in the five-year period, the value increas-

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ing 382.9 per cent. Another evidence of the progress is seen in the tendency to build larger units, the large generators averaging 348 kilowatt capacity each in 1919 as against 116 kilowatts each in 1914.

TABLE 13.—GENERATING APPARATUS AND PARTS: 1919 AND 1914.

CLASS.	1919	1914
Total value.....	\$88,286,114	\$17,865,542
Generators (other than small dynamos under 10 kw.):		
Alternating current—		
Steam-turbine driven, under 2,000 kva.—		
Number.....	532	
Kilowatts.....	665,971	
Value.....	(1)	375
Steam-turbine driven, 2,000 kva. or over—		
Number.....	144	600,185
Kilowatts.....	1,238,827	\$3,895,291
Value.....	\$8,262,802	
Other, including water-wheel driven—		
Number.....	3,123	2,137
Kilowatts.....	821,597	587,820
Value.....	\$4,403,290	\$3,542,164
Direct current—		
Steam-turbine driven—		
Number.....	2,262	264
Kilowatts.....	408,866	14,016
Value.....	\$2,704,563	\$308,379
Other, including water-wheel driven—		
Number.....	4,345	9,369
Kilowatts.....	485,266	206,305
Value.....	\$3,937,080	\$2,569,086
Small dynamos (under 10 kw.), starting motors, and automotive generators, not including control equipment, value.....	\$36,662,707	\$5,933,273
Self-contained lighting outfits (as farm-lighting outfits):		
Number.....	61,357	(2)
Value.....	\$24,078,536	(3)
Parts and supplies, value.....	\$6,217,046	\$1,527,359

<sup>1</sup> Value included with that of generators of 2,000 kva. or over, to avoid disclosure of individual operations.

<sup>2</sup> Not reported in 1914.

**Transformers.**—Table 14 shows in comparative form for 1919, 1914, and 1909, the number, capacity, and value of the transformers and regulators manufactured in the industry. During the period 1914 to 1919, the manufacture of transformers increased 230.6 per cent in number, 447.6 per cent in capacity, and 94.8 per cent in value. To avoid a disclosure of individual operations, statistics for reactances and regulators were merged with those for rheostats, resistances, controllers, etc.

TABLE 14.—TRANSFORMERS AND FEEDER POTENTIAL REGULATORS: 1919, 1914, AND 1909.

CLASS.	1919	1914	1909
Total value.....	\$53,495,570	\$28,276,338	\$14,030,715
Transformers:			
Number.....	382,929	115,843	76,729
Kilowatts.....	14,484,170	2,644,794	1,035,420
Value.....	\$26,560,901	\$13,120,065	\$8,801,019
Under 50 kilowatts—			
Number.....	331,090	110,177	72,776
Value.....	\$10,613,234	\$7,310,615	\$4,184,832
50 to 500 kilowatts—			
Number.....	50,061	4,857	
Value.....	\$9,199,762	\$2,625,414	
500 kilowatts or over—			
Number.....	1,169	809	3,953
Value.....	\$5,747,005	\$3,178,036	\$4,016,187
Rheostats, resistances, controllers, motor starters, speed-controlling devices, reactances, regulators, etc. ....	\$23,083,265	\$9,788,378	\$2,674,963
Converting apparatus—synchronous condensers, motor-generator sets, double-current generators, dynamotors, frequency changers, and rotary-phase converters....	\$4,851,404	\$5,367,805	\$3,154,733

<sup>1</sup> Rheostats and resistances only.

**Motors.**—Table 15 shows the number, capacity, and value of the electrical motors manufactured in 1919 and 1914. The value of the motors, including parts and supplies, 1919, is an increase of \$72,717,403, or 164.6 per cent, over the corresponding figure for 1914. Railway motors were included with those for vehicles to avoid a disclosure of individual operations.

TABLE 15.—MOTORS, PARTS, AND SUPPLIES: 1919 AND 1914.

CLASS.	1919	1914
Total value.....	\$116,893,638	\$44,176,235
Stationary motors:		
Number.....	1,533,407	<sup>1</sup> 417,092
Horsepower.....	3,791,062	1,2,882,795
Value.....	\$76,171,558	\$32,288,140
Direct current—		
Number.....	380,182	133,492
Horsepower.....	734,091	690,820
Value.....	\$20,200,313	\$13,316,459
Alternating current—		
Under 200 horsepower—		
Number.....	1,151,280	
Horsepower.....	2,559,526	
Value.....	\$52,430,351	284,500
200 horsepower or over—		
Number.....	1,030	1,901,075
Horsepower.....	496,845	\$18,960,000
Value.....	\$3,540,864	
Marine motors:		
Number.....	2,620	(2)
Horsepower.....	8,422	(2)
Value.....	\$816,371	(2)
For vehicles and railways:		
Number.....	49,256	<sup>2</sup> 11,850
Horsepower.....	351,286	<sup>3</sup> 39,853
Value.....	\$6,355,102	<sup>4</sup> \$1,351,442
For fans:		
Number.....	709,350	(4)
Horsepower.....	66,915	(4)
Value.....	\$9,008,001	\$4,835,850
For miscellaneous uses:		
Number.....	198,305	(4)
Horsepower.....	141,610	(4)
Value.....	\$4,920,311	\$1,100,664
Parts and supplies, value.....	\$18,722,295	\$4,512,230

<sup>1</sup> Includes railway motors.

<sup>2</sup> Not reported separately.

<sup>3</sup> Vehicle motors only.

<sup>4</sup> Figures not available.

**Batteries.**—Table 16 shows the production of storage and primary batteries, parts, and supplies for 1919, 1914, and 1909. The value of this group of products in 1919 exceeds that of 1914 by \$69,060,740, an increase of 295.1 per cent. Storage batteries increased in value 433.7 per cent, and in weight of plates, 237 per cent, during the last census period.

TABLE 16.—BATTERIES, PARTS, AND SUPPLIES: 1919, 1914, AND 1909.

CLASS.	1919	1914	1909
Total value.....	\$92,463,195	\$28,402,455	\$10,612,470
Storage:			
Batteries, value.....	\$56,048,347	\$10,015,150	\$4,243,084
Weight of plates, pounds.....	138,438,540	41,079,047	23,110,331
Parts and supplies, value.....	\$3,387,805	\$2,465,814	\$341,225
Primary:			
Dry—			
Number.....	70,300,082		
Value.....	\$17,805,611		
Dry, small, for flash lights—			
Number.....	94,483,864	\$8,719,104	\$4,583,032
Value.....	\$7,514,833		
Liquid, including testing—			
Number.....	2,050,946	306,351	344,650
Value.....	\$3,508,624	\$802,525	\$720,513
Parts and supplies, value.....	\$3,597,975	\$790,802	\$621,663

Ohio led all states in the production of storage batteries, followed by Pennsylvania, New York, New Jersey, and Indiana, in the order named. The value of battery supplies and parts—storage and primary—increased from \$3,265,616 in 1914 to \$6,985,780 in 1919, equivalent to 113.9 per cent.

**Incandescent lamps.**—Statistics for incandescent lamps are given in Table 17 for 1919, 1914, and 1909. Statistics for 1919 show an increase in value over that for 1914 of \$40,296,515, or 232.3 per cent. The tungsten type formed 80.9 per cent of the value of all incandescent lamps manufactured in 1919 and 68.5 per cent in 1914. The gem type was included with vacuum and vapor lamps to avoid a disclosure of individual operations.

TABLE 17.—INCANDESCENT LAMPS: 1919, 1914, AND 1909.

KIND.	1919	1914	1909
Total value.....	\$57,046,900	\$17,350,385	\$15,714,809
Tungsten:			
Number.....	211,383,193	74,434,059	11,738,619
Value.....	\$46,628,343	\$11,896,354	\$6,211,193
Carbon filament:			
Number.....	13,330,273	14,092,055	55,038,378
Value.....	\$1,830,614	\$1,397,572	\$6,157,066
Decorative and miniature lamps, X-ray bulbs, vacuum tubes, etc., value.....	\$5,892,211	\$1,702,729	\$600,010
Gem and vacuum and vapor lamps, value.....	\$2,512,435	\$2,803,730	\$2,715,991
Other types, value.....	\$783,207		

**Telegraph apparatus.**—Table 18 shows the production of telegraph instruments and apparatus in 1919, 1914, and 1909. The first and third groups show, for the period 1914 to 1919, increases in value of 1,211.9 per cent and 1,064.9 per cent, respectively. The figures for radio and wireless do not represent the magnitude of the installations, as they cover only the instruments and appliances turned out by the factories during the census years.

TABLE 18.—TELEGRAPH APPARATUS: 1919, 1914, AND 1909.

CLASS.	1919	1914	1909
Total value.....	\$12,816,341	\$2,248,375	\$1,957,432
Intelligence (key, sounder, etc.), all kinds.....	2,649,365	201,956	197,660
Police, fire, district, and miscellaneous.....	2,092,840	1,253,954	1,128,658
Radio and wireless.....	7,834,698	672,575	448,262
Switchboards, parts, and supplies.....	239,038	119,890	154,843

**Telephone apparatus.**—Table 19 shows the statistics for telephone apparatus for 1919, 1914, and 1909. The aggregate value of all telephone apparatus, parts, and supplies produced in 1919 shows an increase of \$23,398,702, or 102.6 per cent, over that reported for 1914. Private branch exchange switchboards, in 1919, show a value of \$2,287,122, as compared with \$448,203 in 1914, an increase of 410.3 per cent. For the same period the value of automatic switchboards increased 331.6 per cent.

TABLE 19.—TELEPHONE APPARATUS: 1919, 1914, AND 1909.

CLASS.	1919	1914	1909
Total value.....	\$40,214,342	\$22,815,640	\$14,259,357
Central switchboards:			
Manual—			
Central battery—			
Number.....	1,330	\$10,701,704	
Value.....	\$6,500,600		
Magneto—			
Number.....	4,594		
Value.....	\$1,344,404	\$374,851	
Automatic, value.....	\$4,327,516	\$1,002,722	
Substation instruments:			
Central battery—			
Number.....	642,093	\$41,082	
Value.....	\$3,839,978	\$3,916,860	
Magneto—			
Number.....	280,502	216,870	
Value.....	\$3,276,604	\$1,700,834	
Interior systems:			
Number.....	173,799	62,258	
Value.....	\$1,578,778	\$510,509	
Private branch exchange switchboards:			
Number.....	6,880	3,593	
Value.....	\$2,287,122	\$448,203	\$869,915
Parts and supplies, value.....	\$23,059,380	\$4,000,888	\$3,751,908

**Household and industrial apparatus.**—The most remarkable development in the entire industry appears in household and industrial apparatus and devices. Table 20 shows an increase in value for 1919 over 1914 of 1,253.3 per cent.

TABLE 20.—HOUSEHOLD AND INDUSTRIAL APPARATUS AND DEVICES: 1919, 1914, AND 1909.

KIND.	1919	1914	1909
Total value.....	\$54,793,105	\$4,048,915	\$1,954,112
Welding apparatus (not including motor-generator sets).....	2,701,378	231,082	\$8,505
Electric furnaces (for iron and steel and brass industries).....	1,040,337	(1)	(1)
Heaters (industrial heaters; air heaters, including those for cars; water heaters).....	2,889,734	352,617	
Stoves and ranges.....	3,444,170	671,413	
Miscellaneous cooking devices (griddles, grills, toasters, porcelators, etc.).....	7,815,212	1,327,183	
Flatirons.....	5,646,421	1,466,020	
Vacuum cleaners, vibrators, clippers, cutters, etc.....	21,642,439	(1)	(1)
Other portable motor-driven devices (motor built in).....	6,935,809	(1)	(1)
Other stationary motor-driven apparatus (motor built in).....	2,427,695	(1)	(1)

<sup>1</sup> Not reported separately.

**Electric measuring instruments.**—Table 21 gives the value of electric measuring instruments of various kinds for 1919, 1914, and 1909. The statistics show an increase of 119.9 per cent as compared with 1914. Of the total production for 1919, meters for consumers circuits comprised 46.1 per cent; station meters and apparatus, 36.7 per cent; and instruments for testing and scientific purposes, 17.3 per cent.

TABLE 21.—ELECTRIC MEASURING INSTRUMENTS: 1919, 1914, AND 1909.

KIND.	1919	1914	1909
Total value.....	\$10,322,164	\$8,786,506	\$7,800,010
Station meters and apparatus.....	7,084,983	1,585,500	1,639,202
Testing and scientific instruments.....	3,336,172	1,073,060	546,970
Meters for consumers' circuits.....	3,001,000	6,127,040	5,613,638

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**Magnetoignition apparatus.**—Table 22 shows the production of magnetoignition apparatus, spark plugs, coils, etc., by states, for 1919, 1914, and 1909. The states are ranked in the table according to the value of products, Ohio leading with 22 per cent of the total value, New Jersey following with 15.2 per cent.

TABLE 22.—MAGNETOIGNITION APPARATUS—GENERATORS, SPARK PLUGS, AND COILS: 1919, 1914, AND 1909.

STATE.	1919	1914	1909
United States.....	\$51,286,793	\$22,260,847	\$6,002,343
Ohio.....	11,202,431	7,472,268	131,055
New Jersey.....	7,780,531	2,922,684	469,952
New York.....	6,000,812	1,205,494	1,482,735
Pennsylvania.....	3,609,392	538,762	(1)
Indiana.....	2,404,530	2,950,792	2,223,221
Illinois.....	1,842,045	413,980	253,451
Wisconsin.....	1,830,480	202,130	63,606
Minnesota.....	56,678		
All other states.....	17,100,094	6,554,731	1,407,323

<sup>1</sup> Included in "All other states."

**Switchboards.**—Each system of centralized electrical supply depends upon a switchboard for the manipulation of its circuits and to connect the sources of supply with the consumer. Table 23 shows the value of the switchboards, panel boards, and cut-out cabinets manufactured during 1919 in 11 of the leading states, for 9 of which comparative figures are available for 1914 and 1909.

TABLE 23.—SWITCHBOARDS, PANEL BOARDS, AND CUT-OUT CABINETS FOR LIGHT AND POWER: 1919, 1914, AND 1909.

STATE.	1919	1914	1909
United States.....	\$17,735,780	\$8,980,111	\$5,971,804
New York.....	7,483,106	5,505,085	2,789,297
Pennsylvania.....	5,197,725	1,560,433	1,243,350
Ohio.....	772,683	237,916	236,930
Illinois.....	444,603	410,981	448,185
Massachusetts.....	375,699	157,961	304,502
Connecticut.....	356,104	224,481	151,385
Wisconsin.....	317,097	(1)	(2)
Indiana.....	248,784	229,088	117,877
California.....	183,541	130,162	90,594
Washington.....	169,928	(1)	(2)
Minnesota.....	158,454	71,971	48,385
All other states.....	2,028,054	444,582	511,293

<sup>1</sup> Included in "All other states."

<sup>2</sup> Figures not available.

New York contributed 42.2 per cent of the entire output in 1919, Pennsylvania following with 29.3 per cent.

**Insulated wire and cables.**—Table 24 gives the value of insulated wire and cables produced not only by establishments primarily engaged in the manufacture of electrical machinery, apparatus, and supplies but likewise by those assigned to other industries. A marked increase, amounting to \$59,176,766, or 85.1 per cent, is shown between the censuses of 1914 and 1919. Of the \$128,682,339 representing the total value of insulated wire and cables, \$84,216,921, or 65.4 per cent, was contributed by the industry "electrical machinery, apparatus, and supplies," and \$44,465,418, or 34.6 per cent by wire-drawing mills and wire departments of steel, and brass, bronze, and copper rolling mills. In the production for 1919, New York occupies first place, followed by New Jersey and Illinois, all of which retain the relative rank they had in 1914.

TABLE 24.—INSULATED WIRE AND CABLES: 1919, 1914, AND 1909.

STATE.	1919	1914	1909
United States.....	\$128,682,330	\$69,505,573	\$51,024,737
Industry:			
Electrical machinery, apparatus, and supplies.....	\$84,216,921	51,321,600	40,250,672
Wire—wire-drawing mills—wire departments of steel, and brass, bronze, and copper rolling mills.....	\$44,465,418	18,183,964	11,374,105
Insulated wire:			
Tons (2,000 pounds).....	112,270	(2)	(1)
Value.....	\$67,578,732	(2)	(1)
Insulated cables:			
Rubber insulation—			
Tons (2,000 pounds).....	52,569	(1)	(1)
Value.....	\$34,314,305	(1)	(1)
Paper insulation—			
Tons (2,000 pounds).....	59,268	(1)	(1)
Value.....	\$26,789,302	(1)	(1)
New York.....	\$27,089,036	\$19,178,327	\$9,485,282
New Jersey.....	25,526,647	15,038,971	13,045,425
Illinois.....	19,577,122	9,628,775	9,487,006
Connecticut.....	10,801,031	6,206,893	4,205,609
Massachusetts.....	15,643,318	6,799,411	2,194,474
Rhode Island.....	12,586,795	6,045,876	7,741,411
Pennsylvania.....	5,467,492	3,290,485	2,796,825
Michigan.....	3,170,516	(2)	(2)
All other states.....	2,760,332	3,300,025	1,768,805

<sup>1</sup> Figures not available.

<sup>2</sup> Included in "All other states."

## GENERAL TABLES.

Table 25 gives for 1919, 1914, and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the industry.

Table 26 presents, for 1919, statistics in detail for the industry as a whole, and for each state that can be shown separately without the possibility of disclosing the operations of individual establishments.

TABLE 25.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

INDUSTRY.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.									Expressed in thousands.	
United States.....	1910	1,404	212,374	438,830	\$238,189	\$425,098	\$997,988	Missouri.....	1910	35	6,367	6,128	\$5,684	\$8,162	\$22,008
	1914	1,030	118,078	227,731	73,806	154,728	335,170		1914	19	2,560	1,918	1,530	2,416	6,643
	1900	1,009	87,260	158,768	49,381	108,566	221,309		1909	20	1,060	1,180	627	1,104	3,261
California.....	1910	73	2,008	3,864	1,894	5,030	11,368	New Hampshire.....	1910	7	425	571	360	643	1,454
	1914	29	780	1,116	472	1,560	2,862		1914	6	223	302	122	165	352
	1900	27	435	442	240	928	1,613		1909	6	103	422	87	155	388
Colorado.....	1910	8	38	85	34	57	139	New Jersey.....	1910	105	26,135	51,684	27,306	58,983	120,341
	1914	8	79	84	42	53	138		1914	76	14,405	22,860	7,807	20,549	40,741
Connecticut.....	1910	54	11,403	15,368	12,454	23,442	51,911		1900	60	11,099	11,368	5,615	14,426	365
	1914	43	5,050	6,450	2,030	7,436	14,330		1919	255	37,598	138,321	45,722	73,830	179,973
	1900	41	3,505	4,457	1,603	5,211	9,824		1914	215	23,738	71,453	16,187	38,025	73,945
Illinois.....	1910	161	27,200	32,660	30,571	51,626	119,528	New York.....	1910	217	18,672	53,813	12,470	27,483	40,290
	1914	142	16,483	21,140	12,366	19,379	45,067		1914	255	37,598	138,321	45,722	73,830	179,973
	1900	143	9,641	11,636	6,413	18,628	26,826		1900	217	18,672	53,813	12,470	27,483	40,290
Indiana.....	1910	47	11,756	32,611	11,180	20,810	41,594	North Carolina.....	1910	7	270	296	131	355	663
	1914	41	4,075	6,426	2,423	3,931	8,879		1914	4	78	89	31	106	177
	1900	42	3,073	5,285	1,301	3,693	7,718		1900	3	120	38	31	97	150
Iowa.....	1910	7	82	90	79	140	280	Ohio.....	1910	189	26,672	42,753	30,652	72,297	156,924
	1914	5	94	88	58	87	235		1914	119	12,695	17,771	7,409	17,482	36,121
	1900	9	64	84	31	74	200		1900	115	8,073	11,959	3,847	7,226	18,777
Maryland.....	1910	13	137	188	145	157	523	Pennsylvania.....	1910	129	24,228	58,360	30,031	51,358	132,674
	1914	6	66	80	35	40	121		1914	105	14,866	36,537	8,737	17,240	44,396
	1900	7	121	266	41	54	147		1900	84	11,025	33,820	6,237	13,535	31,351
Massachusetts.....	1910	110	23,889	36,367	27,650	31,837	91,939	Rhode Island.....	1910	13	1,513	3,087	1,346	3,127	7,567
	1914	91	17,125	29,846	10,651	17,697	43,860		1914	13	1,581	3,038	734	3,793	5,468
	1900	83	14,507	14,835	8,209	12,755	28,143		1900	12	1,601	2,837	678	4,505	6,410
Michigan.....	1910	54	4,190	5,650	4,685	9,035	25,026	Wisconsin.....	1910	43	5,875	7,470	6,028	9,308	23,636
	1914	35	1,144	1,584	656	1,740	3,416		1914	29	2,115	1,340	2,084	3,976	5,836
	1900	40	1,218	1,355	494	1,030	2,327		1900	30	1,409	2,333	820	1,451	3,836
Minnesota.....	1910	20	942	881	753	2,033	4,584	All other states.....	1910	74	1,556	4,410	1,504	2,709	8,058
	1914	17	236	393	161	348	749		1914	27	671	2,241	349	617	1,664
	1900	13	187	205	101	220	526		1900	48	953	2,406	467	921	2,167

## MANUFACTURES.

TABLE 26.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.						WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.					
		Total.	Proprietors and firm members.	Salaries of officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.		Capital.	Salaries and wages.				
					Male.	Female.	Average number.	Number, 15th day of month.		Male.	Female.	Male.	Female.		Officials.	Clerks, etc.			
Total.....	1,404	271,912	473	10,701	28,233	19,181	212,374	De 241,640	My 196,418	245,324	180,152	62,920	1,557	605	\$857,855,496	\$35,932,611	\$62,247,828		
California.....	73	2,714	57	113	325	211	2,008	No 2,828	My 1,803	2,322	1,478	840	4	....	7,090,738	342,608	602,607		
Colorado.....	8	48	2	5	1	2	38	Ja 61	28	40	28	12	....	124,787	7,403	3,227			
Connecticut.....	54	13,344	15	472	784	670	11,403	Do 13,828	Ap 9,445	18,872	8,713	4,930	120	109	44,916,089	1,857,330	1,690,873		
Illinois.....	161	30,515	40	1,310	5,094	2,706	27,290	De 30,965	Mh 25,650	30,952	21,568	8,711	536	137	90,811,473	4,805,813	11,347,105		
Indiana.....	47	14,160	6	329	1,188	881	11,756	No 13,521	Ja 9,859	13,063	9,122	3,763	61	57	35,430,365	1,036,050	2,379,568		
Iowa.....	7	118	4	17	6	9	82	De 96	Fe 72	96	81	15	....	325,058	21,861	16,940			
Kentucky.....	9	310	....	21	17	17	255	De 327	Al 162	327	277	50	....	1,112,683	88,271	29,045			
Louisiana.....	5	50	1	11	2	4	32	Se 41	No 25	40	22	18	....	115,403	22,813	4,198			
Maryland.....	13	177	8	16	8	8	137	No 148	Ja 134	144	129	15	....	288,919	49,598	15,810			
Massachusetts.....	110	29,472	32	1,201	2,287	2,063	23,889	De 28,024	Ap 21,582	28,008	20,884	6,900	151	73	90,953,845	3,855,415	5,158,647		
Michigan.....	54	5,165	19	230	377	349	4,190	Ap 4,908	Ap 3,775	4,657	2,876	1,776	2	3	15,987,288	1,002,059	949,048		
Minnesota.....	20	1,230	7	54	151	76	942	De 1,005	Ja 916	982	636	334	13	....	2,372,860	255,655	209,234		
Missouri.....	35	7,891	3	331	638	497	6,307	De 7,694	Fe 5,357	7,507	5,335	2,091	33	48	21,323,769	1,181,116	1,208,781		
Nebraska.....	6	116	3	9	7	9	88	No 100	Ja 58	96	66	30	....	272,230	22,200	23,238			
New Hampshire.....	7	461	1	25	2	8	425	De 530	Fe 384	200	240	....	....	920,294	93,012	22,624			
New Jersey.....	105	32,603	24	1,403	2,653	2,328	20,135	Ja 28,285	Jy 24,299	27,684	18,452	8,905	207	120	114,813,488	4,793,270	5,907,280		
New York.....	255	51,009	91	2,206	7,298	3,726	37,593	De 41,333	Je 35,539	41,441	32,820	8,392	174	55	102,681,033	7,205,821	14,518,605		
North Carolina.....	7	311	5	23	10	3	270	Ja 280	Oc 254	267	144	123	....	378,902	54,870	17,930			
Ohio.....	180	32,501	53	925	2,817	2,034	26,672	De 31,551	My 22,900	35,038	27,377	8,226	24	6	103,340,897	3,600,816	5,779,063		
Oregon.....	3	31	2	4	3	2	20	Se 1	Ap 1	21	18	3	....	50,250	6,916	9,285			
Pennsylvania.....	120	32,601	60	1,291	4,366	2,056	24,228	De 27,817	My 21,791	27,203	10,424	4,625	86	48	120,115,738	3,826,301	10,095,402		
Rhode Island.....	13	1,842	7	74	139	109	1,513	Ja 1,695	Jy 1,348	1,560	732	818	9	7	5,049,062	188,710	247,346		
Tennessee.....	4	93	2	6	2	1	52	Ja 64	At 46	47	41	6	....	131,518	18,328	3,510			
Texas.....	6	44	3	5	1	2	33	No 39	Ja 28	37	37	....	149,146	13,500	3,668				
Washington.....	12	268	2	32	21	23	190	Ja 274	Fe 134	289	178	45	....	1,931,181	73,704	40,203			
Wisconsin.....	43	7,757	9	378	877	618	5,375	De 7,119	Fe 6,915	7,117	5,042	1,909	135	31	21,801,429	1,236,513	1,005,244		
All other states.....	29	1,111	11	51	104	59	386	....	706	140	2	1	....	2,777,175	109,120	210,914			
EXPENSES—continued.																			
STATE.	Salaries and wages--Con.	EXPENSES—continued.				For materials.				Value of products.	Primary horsepower.				POWER.				
		Wage earners.	For contract work	Rent of factory.	Taxes, Federal, state, county, and local.	For materials.		Value added by manufacture.	Owned.				Total.	Steam engines (not turbines).	Internal-combustion engines.	Water power.	Rented. <sup>4</sup>	Electric horse-power generated in establishments reporting.	
						Principal materials.	Fuel and rent of power.		Steam engines (not turbines).		Internal-combustion engines.	Water power.							Rented.
Total.....	\$233,188,852	\$1,218,203	\$2,553,802	\$43,803,385	\$411,359,101	\$13,730,110	\$907,968,119	\$572,869,908	438,830	82,000	131,231	7,446	1,800	230,302	243,701				
California.....	1,894,004	16,090	67,314	334,118	4,808,427	131,484	11,368,196	6,338,285	3,804	....	....	....	....	3,864	....				
Colorado.....	33,624	5,320	4,545	2,044	55,056	2,082	138,849	81,711	85	....	....	....	....	85	....				
Connecticut.....	12,453,872	3,480	45,054	1,074,862	22,702,830	648,968	51,917,332	28,469,534	15,368	6,805	500	8	105	7,860	5,111				
Illinois.....	30,571,419	618,802	3,193,171	50,258,304	1,367,905	119,529,022	67,901,723	32,680	1,995	19,000	83	....	....	11,582	13,285				
Indiana.....	11,160,493	500	35,004	784,024	20,202,035	547,642	41,594,125	20,784,448	32,611	4,550	850	233	....	27,178	623				
Iowa.....	78,735	....	2,258	2,416	135,025	3,880	280,306	140,801	96	....	....	....	10	....	80				
Kentucky.....	243,030	12,436	2,975	100,469	546,573	7,253	1,187,031	583,205	439	65	....	....	....	374	178				
Louisiana.....	27,901	....	2,912	4,700	55,292	852	154,003	97,859	36	....	....	....	....	30	....				
Maryland.....	144,903	4,723	7,096	30,707	152,150	4,757	522,865	305,058	188	....	....	....	....	188	....				
Massachusetts.....	27,649,067	28,100	195,130	4,127,531	30,545,217	1,291,850	91,933,738	60,101,662	36,307	3,925	24,718	75	180	7,460	53,460				
Michigan.....	4,685,479	7,565	106,420	1,507,016	8,812,100	222,896	26,026,528	15,990,472	5,059	205	37	....	....	5,357	35				
Minnesota.....	753,904	8,343	17,378	160,213	1,976,575	56,773	4,353,949	2,320,601	881	....	....	....	....	881	....				
Missouri.....	5,083,802	4,471	105,832	1,022,828	7,994,570	197,083	22,007,058	13,845,405	6,128	350	1,000	....	....	4,778	2,410				
Nebraska.....	91,589	....	4,573	16,823	210,348	2,075	410,655	207,232	77	....	....	....	....	77	....				
New Hampshire.....	359,801	....	3,395	20,481	634,607	8,030	1,463,679	820,076	571	45	15	38	240	233	....				
New Jersey.....	27,305,582	267,015	203,794	4,045,864	57,058,248	1,894,374	120,341,356	61,353,734	51,664	22,157	6,200	1,482	100	21,725	23,028				
New York.....	45,721,978	109,328	546,060	6,038,405	70,729,707	3,112,543	179,975,580	106,132,330	136,321	10,046	46,010	135	75	31,055	53,124				
North Carolina.....	131,004	....	3,083	3,469	332,228	23,077	663,207	307,902	296	161	6	....	25	104	20				
Ohio.....	30,652,032	38,738	373,956	8,177,807	70,033,187	1,064,020	156,924,143	84,626,936	42,753	4,533	8	2,068	....	30,144	14,160				
Oregon.....	20,998	....	2,752	816	37,241	1,067	103,127	64,810	35	....	....	....	....	35	....				
Pennsylvania.....	30,031,295	86,531	176,410	10,011,888	49,485,481	1,872,101	132,873,560	81,816,214	58,306	4,202	33,930	1,257	....	18,977	62,108				
Rhode Island.....	1,346,361	5,471	486,325	2,951,563	175,211	7,563,790	4,440,026	3,087	705	....	....	....	....	800	1,582				
Tennessee.....	44,275	....	215	8,770	66,555	3,715	184,829	114,559	123	75	....	....	....	48	....				
Texas.....	45,763	....	2,520	1,271	90,457	1,700	174,877	82,711	98	....	....	....	....	98	....				
Washington.....	201,899	....	8,668	27,982	640,004	5,638	1,006,512	420,810	632	....	....	....	....	632	....				
Wisconsin.....	6,028,437	1,800	68,875	990,926	9,001,101	306,961	23,636,473	14,268,411	7,470	2,110	....	....	....	5,360	3,707				
All other states.....	827,946	15,805	10,789	32,629	1,006,360	124,489	2,816,433	1,685,584	2,970	211	2,014	185	500	1,040	1,040				

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> All other states embrace: Alabama, 1 establishment; Arkansas, 1; District of Columbia, 1; Florida, 1; Georgia, 2; Idaho, 1; Kansas, 2; Maine, 1; Montana, 1; North Dakota, 1; South Carolina, 2; South Dakota, 1; Utah, 2; Vermont, 1; Virginia, 5; West Virginia, 6.<sup>3</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).<sup>4</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

## MANUFACTURED ICE.

### GENERAL STATISTICS.

**General character of the industry.**—The statistics for this industry represent the manufacture of ice for sale. Data for cold storage and refrigeration were not obtained at this census, except in some instances, where the manufacture of ice and the cold storage or refrigeration were carried on in the same establishment and it was impossible to segregate the data, the figures given cover the entire operations of such establishments.

Ice was also made in establishments engaged primarily in the manufacture of other products, to the value of \$12,510,832 in 1919 and \$6,934,086 in 1914. The value of such manufactures, however, is not included in the total value of products shown for the manufactured ice industry.

**Comparative summary.**—Table 1 summarizes the statistics for each census since 1890, with percentages of increase for each five-year period. With few exceptions increases are noticeable at each succeeding census. The large increases, however, from 1914 to 1919, in salaries and wages, cost of materials, and value of products are due largely to a general rise of prices and wages following the World War, and do not, therefore, fairly measure the growth of the industry for that period. A truer index of conditions is found in the average number of wage earners and primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes."

**Principal states, ranked by value of products.**—New York, as shown by Table 2, reported the greatest value of products in 1919 but in average number of wage earners was outranked by Pennsylvania and Texas. The latter state, in 1919 as in 1914 and 1909, led in the number of establishments.

**Persons engaged in the industry.**—The classification, by sex, for 1919 was reported separately, but for 1914 and 1909 was obtained in the same manner as the distribution by age. The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures by states will be found in Table 17.

**Wage earners, by months, for states.**—As shown by Table 4, the number of wage earners employed in the industry ranged from a maximum of 41,078 in July to a minimum of 20,796 in January, the minimum number being equivalent to 50.6 per cent of the maximum. Figures are given separately for all states reporting an average of over 500 wage earners, while for the United States the number of males and females is also shown.

**Average number of wage earners, by prevailing hours of labor per week, for states.**—Table 5 shows

a marked shortening of the working day for the industry since 1914. In that year only 5.5 per cent of the average number of wage earners were reported as employed fewer than 55 hours per week as against 23.4 per cent in 1919. Due to the nature of the industry a large proportion is reported in the "Over 60" group. In many large establishments two shifts working 12 hours each are employed 6 days in the week.

**Size of establishments, by average number of wage earners, for states.**—Analysis of Table 6 discloses the significant fact that in 1919, 1,589 establishments, or 55.4 per cent of the total number for the industry, employed fewer than 6 wage earners each, while only 4,236, or 14 per cent of the total number of wage earners, were employed therein, evidencing the predominance of the small establishments based on the average number of wage earners.

**Size of establishments, by value of products.**—At the censuses of 1909 and 1914 establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into "\$100,000 to \$500,000," and "\$500,000 to \$1,000,000." Table 7, therefore, gives combined figures for these two groups for 1909 and 1914.

**Character of ownership, by states.**—Table 8 emphasizes the predominance of the corporate form of ownership. Corporations owned 66.7 per cent of the total number of establishments in 1919, employed 86.6 per cent of the total average number of wage earners, and reported 87.4 per cent of the value of products. During the five-year period 1914 to 1919 the average number of wage earners in corporations increased 6,664, or 34.1 per cent, and the value of products \$67,741,474, or 130.3 per cent.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 9, there was an increase in the total horsepower for the industry of 110,982 horsepower, or 24 per cent, due principally to an increase of 103,447 horsepower, or 356.8 per cent, in rented electric power, while owned power increased only 7,540 horsepower, or 1.8 per cent, during the five-year period.

**Fuel consumed, by states.**—Table 10 shows the principal kinds of fuel used for the industry in the United States in 1919 and 1914, and also gives separately the amounts consumed in states requiring considerable quantities of fuel for manufacturing purposes. Anthracite coal is naturally consumed in the Eastern states, and three states, New York, New Jersey, and Pennsylvania combined, reported 85.1 per cent of this kind of coal used by the industry in 1919.



# MANUFACTURED ICE.

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TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Aver- age num- ber em- ployed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent min- imum is of maxi- mum.
		Janu- ary.	Febru- ary.	March.	April.	May.	June.	July.	August.	Septem- ber.	Octo- ber.	Novem- ber.	Decem- ber.	
United States:														
1919.....	30,247	20,796	21,408	23,275	27,310	31,644	37,788	41,078	40,977	37,999	31,834	25,631	23,224	50.6
Males.....	20,604	21,213	23,056	27,102	31,370	37,524	40,778	40,673	37,716	31,615	25,413	23,001	50.5	
Females.....	242	192	195	219	208	274	204	305	304	283	219	218	228	63.0
1914.....	23,011	15,144	15,600	17,128	21,023	25,686	30,825	32,528	32,104	28,890	23,065	18,085	15,996	40.6
1909.....	16,114	9,847	10,008	11,303	14,917	18,061	20,875	22,872	22,644	21,403	16,526	13,020	11,302	43.1
Alabama.....	553	361	367	393	500	588	680	726	759	726	614	518	414	47.0
Arkansas.....	525	297	306	303	469	578	673	835	775	717	545	410	332	35.6
California.....	1,535	<i>1,177</i>	1,190	1,269	1,420	1,660	1,605	1,938	1,927	1,829	1,747	1,398	1,272	60.7
Florida.....	1,412	<i>1,312</i>	1,345	1,401	1,373	1,407	1,415	1,457	1,400	1,549	1,472	1,306	1,447	84.7
Georgia.....	1,115	665	971	985	1,020	1,174	1,320	1,204	1,283	1,190	1,056	992	73.1	
Illinois.....	1,681	<i>1,084</i>	1,131	1,321	1,568	1,676	1,080	2,252	2,303	2,164	1,919	1,477	1,288	47.1
Indiana.....	855	<i>488</i>	515	594	732	831	1,142	1,321	1,311	1,172	877	672	505	36.9
Iowa.....	504	536	521	479	322	405	556	717	712	636	503	349	316	43.7
Kansas.....	822	468	487	501	685	875	1,097	1,266	1,309	1,151	841	617	517	35.0
Kentucky.....	754	451	420	496	660	844	1,059	1,140	1,120	990	788	572	409	36.8
Louisiana.....	785	600	609	631	759	843	968	1,003	988	951	775	673	630	50.7
Maryland.....	632	<i>420</i>	434	475	577	704	803	851	859	793	686	520	453	49.6
Michigan.....	742	<i>400</i>	678	510	618	762	936	1,084	1,027	854	628	569	780	42.4
Missouri.....	1,174	768	817	932	1,141	1,267	1,467	1,580	1,642	1,522	1,243	899	766	46.4
New Jersey.....	838	648	<i>572</i>	619	712	875	1,080	1,004	1,123	1,042	856	786	700	50.9
New York.....	2,138	<i>1,681</i>	1,032	1,777	1,954	2,212	2,581	2,028	2,664	2,490	2,350	1,905	1,842	57.5
North Carolina.....	757	608	616	543	721	886	998	1,031	1,006	968	749	616	549	48.8
Ohio.....	1,952	<i>1,148</i>	1,148	1,311	1,648	1,052	2,847	2,959	2,894	2,540	2,069	1,559	1,349	38.8
Oklahoma.....	831	469	487	569	712	895	1,081	1,204	1,338	1,172	827	599	548	35.1
Pennsylvania.....	2,733	1,903	1,957	2,183	2,527	2,806	3,673	3,603	3,506	3,398	2,893	2,307	2,000	51.8
South Carolina.....	584	388	388	421	514	649	737	773	791	732	613	527	477	48.8
Tennessee.....	1,063	691	712	787	979	1,192	1,412	1,508	1,551	1,284	1,060	831	749	44.6
Texas.....	2,362	<i>1,587</i>	1,556	1,768	2,155	2,553	2,935	3,258	3,306	3,034	2,467	2,001	1,707	46.2
Virginia.....	969	659	641	724	884	1,032	1,212	1,150	1,231	1,190	1,053	822	732	43.9

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States.....	1919	30,247	215	7	4,781	362	1,720	5,880	4,177	13,105
	1914	23,011	(2)	(2)	518	67	604	2,182	3,741	15,810
	1909	16,114	(2)	(2)	305	30	283	968	2,007	12,524
Alabama <sup>2</sup> .....	1919	553	.....	.....	16	.....	24	25	85	404
Arkansas <sup>2</sup> .....	1919	525	5	.....	11	.....	25	40	82	302
California.....	1919	1,535	9	.....	516	14	177	627	49	143
	1914	1,139	(2)	(2)	25	2	4	464	314	330
Florida.....	1919	1,412	2	.....	98	10	16	205	39	1,042
	1914	780	(2)	(2)	17	2	89	120	44	538
Georgia.....	1919	1,115	.....	.....	11	.....	13	85	40	986
	1914	890	.....	.....	.....	.....	26	5	42	817
Illinois.....	1919	1,681	10	.....	161	86	28	700	327	360
	1914	1,312	(2)	(2)	22	.....	74	448	158	617
Indiana.....	1919	855	7	.....	13	.....	6	40	107	623
	1914	920	.....	.....	.....	.....	15	8	276	632
Iowa <sup>2</sup> .....	1919	504	.....	.....	14	4	126	203	111	46
Kansas.....	1919	822	6	3	176	.....	80	116	161	280
	1914	634	(2)	(2)	9	.....	21	.....	106	498
Kentucky.....	1919	754	1	.....	48	1	17	91	102	404
	1914	766	(2)	(2)	13	3	5	18	52	677
Louisiana.....	1919	785	.....	.....	55	4	23	66	134	507
	1914	782	(2)	(2)	19	.....	6	6	107	616
Maryland.....	1919	632	(2)	(2)	1	.....	31	30	30	274
	1914	532	.....	.....	.....	.....	31	30	18	462

<sup>1</sup> Includes 48 and under for 1914 and 1909.

<sup>2</sup> Corresponding figures not available.

\* Not shown separately in 1914.

## MANUFACTURES.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914—Continued.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
			(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Michigan	1919	742	.....	.....	605	.....	.....	65	25	47
Missouri	1919	1,174	66	78	11	29	348	87	565	800
	1914	1,059	(2)	(2)	18	10	83	148	378	384
New Jersey	1919	838	28	289	12	61	230	19	204	204
	1914	621	(2)	(2)	16	36	104	87	272	272
New York	1919	2,138	23	1,187	140	179	94	367	148	629
	1914	1,407	(2)	(2)	112	15	126	253	272	272
North Carolina	1919	267	1	91	3	6	6	273	377	377
	1914	519	.....	.....	.....	.....	15	140	384	384
Ohio	1919	1,952	22	73	39	231	380	296	902	902
	1914	1,277	(2)	(2)	95	7	24	311	701	701
Oklahoma	1919	831	.....	27	18	126	149	53	458	458
	1914	628	(2)	(2)	7	.....	10	41	454	454
Pennsylvania	1919	2,733	5	216	9	118	702	601	1,082	1,082
	1914	2,124	(2)	(2)	49	5	32	376	1,612	1,612
South Carolina	1919	684	.....	10	.....	10	6	102	456	456
Tennessee	1919	1,063	1	34	7	5	11	125	885	885
	1914	927	(2)	(2)	3	.....	5	50	865	865
Texas	1919	2,362	17	359	10	243	343	201	1,189	1,189
	1914	1,926	(2)	(2)	12	10	39	167	1,633	1,633
Virginia	1919	969	2	22	2	48	244	227	420	420
	1914	714	(2)	(2)	2	.....	16	150	518	518

<sup>1</sup> Includes 48 and under for 1914 and 1909.<sup>2</sup> Corresponding figures not available.<sup>3</sup> Not shown separately in 1914.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	Establishments.	TOTAL. Wage earners (average number).	ESTABLISHMENTS EMPLOYING—													
			No wage earners.	1 to 5 wage earners, inclusive.	6 to 20 wage earners, inclusive.	21 to 50 wage earners, inclusive.	51 to 100 wage earners, inclusive.	101 to 250 wage earners, inclusive.	251 to 500 wage earners, inclusive.	501 to 1,000 wage earners, inclusive.	Establishments.					
			Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Wage earners.					
United States	1919 1914	2,867 2,543	30,247 23,011	51 23	1,538 1,453	4,236 4,168	931 824	10,360 8,935	280 201	8,739 6,024	48 33	3,186 2,211	17 9	2,682 1,673	1 1	468 578
Alabama	69	553	2	25	63	27	291	4	127	1	72	.....	.....	.....	.....	
Arkansas	71	525	.....	38	115	29	312	4	98	.....	.....	.....	.....	.....	.....	
California	117	1,535	5	57	129	35	361	14	511	5	345	1	199	.....	.....	
Florida	95	1,412	1	39	118	26	374	13	397	4	267	2	256	.....	.....	
Georgia	70	1,115	.....	31	104	28	350	7	218	3	201	1	247	.....	.....	
Illinois	154	1,681	.....	70	222	60	629	22	720	2	110	.....	.....	.....	.....	
Indiana	107	855	1	61	187	36	365	8	243	1	60	.....	.....	.....	.....	
Iowa	46	504	1	28	85	11	126	5	162	1	131	.....	.....	.....	.....	
Kansas	137	822	5	94	216	31	349	6	182	1	75	1	181	.....	.....	
Kentucky	99	754	2	62	181	32	348	2	49	.....	.....	.....	.....	.....	.....	
Louisiana	70	785	1	19	73	43	462	7	250	.....	.....	.....	.....	.....	.....	
Maryland	61	632	1	37	65	13	170	9	245	.....	.....	1	122	.....	.....	
Michigan	18	742	.....	9	27	6	74	2	65	.....	.....	1	578	.....	.....	
Missouri	129	1,174	2	85	200	31	343	8	234	1	98	2	290	.....	.....	
New Jersey	75	838	.....	32	90	31	338	11	255	.....	.....	1	155	.....	.....	
New York	132	2,138	1	42	139	55	694	30	979	3	186	1	150	.....	.....	
North Carolina	63	757	1	28	84	20	228	13	394	1	53	.....	.....	.....	.....	
Ohio	141	1,952	5	60	219	51	548	11	373	3	228	1	116	1	468	
Oklahoma	116	831	.....	68	180	39	388	6	152	2	111	.....	.....	.....	.....	
Pennsylvania	226	2,733	6	113	297	73	817	27	877	5	309	2	433	.....	.....	
South Carolina	54	584	.....	29	102	18	222	6	205	1	55	.....	.....	.....	.....	
Tennessee	73	1,063	1	39	114	20	230	9	301	2	135	2	283	.....	.....	
Texas	285	2,392	3	158	472	78	916	22	738	4	236	.....	.....	.....	.....	
Virginia	106	969	.....	59	148	34	365	11	288	1	58	1	110	.....	.....	

# MANUFACTURED ICE.

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TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	2,867	2,543	2,004	30,247	23,011	16,114	\$137,004,798	\$60,386,267	\$42,953,055	\$94,127,289	\$42,681,263	\$31,635,557
Less than \$5,000.....	367	488	403	352	742	672	1,019,837	1,412,978	1,201,290	667,276	938,830	829,886
\$5,000 to \$20,000.....	1,013	1,208	973	3,211	5,589	4,553	11,654,111	13,100,305	10,748,790	7,350,855	9,122,668	7,881,271
\$20,000 to \$100,000.....	1,167	768	587	12,738	11,730	8,634	54,631,803	32,338,308	23,741,981	36,850,216	22,658,730	17,469,508
\$100,000 to \$500,000.....	306	78	{ 11,303 }	{ 1,313 }	4,940	2,250	{ 50,258,222 }	{ 6,508,306 }	{ 13,534,676 }	{ 30,882,152 }	{ 4,395,123 }	{ 5,455,112 }
\$500,000 to \$1,000,000.....	10	1	{ 41 }	{ 1,330 }	.....	.....	.....	.....	7,257,970	{ 4,991,667 }	{ 9,910,135 }	.....
\$1,000,000 and over.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	12.8	19.2	20.1	1.2	3.2	4.2	0.7	2.3	2.8	0.7	2.2	2.6
\$5,000 to \$20,000.....	35.3	47.5	48.6	10.6	24.3	28.3	8.5	21.7	25.0	7.8	21.4	24.9
\$20,000 to \$100,000.....	40.7	30.2	29.3	42.1	51.0	53.6	39.9	53.8	55.3	39.1	53.1	55.2
\$100,000 to \$500,000.....	10.7	3.1	{ 2.0 }	{ 37.4 }	21.5	14.0	{ 41.1 }	22.4	16.9	{ 42.4 }	23.2	17.2
\$500,000 to \$1,000,000.....	0.3	{ 1. }	{ 4.3 }	4.4	.....	.....	4.7	5.1	.....	5.3	.....	.....
\$1,000,000 and over.....	0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Less than one-tenth of 1 per cent.

TABLE 8.—CHARACTER OF OWNERSHIP, BY SELECTED STATES: 1919 AND 1914.

STATE.	Cen-sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			Value of products.							
		In establishments owned by—			Per cent of total.			Of establishments owned by—			Per cent of total.							
		Total.	Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.	Total.	Individ-uals.	Corpora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.			
United States.....	1919	545	1,911	411	30,247	2,061	28,183	2,003	6.8	6.6	\$137,004,798	\$8,325,646	\$119,718,423	\$8,400,729	6.4	87.4	6.2	
	1914	450	1,732	355	23,011	1,883	19,519	1,609	8.2	84.8	60,386,267	4,448,618	51,976,949	3,960,700	7.4	88.1	6.6	
	1909	330	1,387	287	10,114	1,471	13,463	1,180	9.1	83.5	42,953,055	3,495,344	30,701,422	2,750,280	8.1	85.4	6.4	
Alabama.....	1919	10	37	12	553	48	377	128	8.7	68.2	2,085,975	163,101	1,562,913	350,961	7.8	74.9	17.3	
	1914	10	33	12	478	40	345	87	9.6	72.2	1,201,106	85,570	931,770	183,700	7.1	77.6	15.3	
Arkansas.....	1919	14	46	12	525	68	368	89	13.0	70.1	2,132,331	257,098	1,592,748	281,885	12.1	97.7	13.2	
	1914	9	41	15	424	27	320	77	6.4	75.5	1,114,551	66,493	885,884	182,204	6.0	77.7	16.3	
California.....	1919	20	80	17	1,535	37	1,461	37	2.4	95.2	7,112,470	190,880	6,724,609	190,981	2.7	94.5	2.8	
	1914	16	71	8	1,130	29	1,098	12	2.5	96.4	3,587,334	92,942	3,447,574	46,818	2.6	96.1	1.3	
Florida.....	1919	20	63	12	1,412	102	1,218	92	7.2	86.3	0,093,203	271,211	3,465,611	284,694	0.7	86.3	7.0	
	1914	14	66	12	760	58	650	52	7.6	85.5	2,202,769	138,364	1,019,727	143,078	6.3	87.2	6.6	
Georgia.....	1919	8	50	12	1,115	51	1,003	61	4.6	90.0	4,440,229	280,086	3,663,442	195,801	0.3	89.3	4.4	
	1914	20	44	10	890	84	758	49	9.4	85.2	2,064,984	196,044	1,758,800	110,080	0.5	85.2	5.3	
Illinois.....	1919	21	127	6	1,081	112	1,536	33	6.7	91.4	10,093,203	376,304	9,558,273	158,086	3.7	94.7	1.6	
	1914	23	100	5	1,312	122	1,104	20	9.3	88.7	3,388,362	271,611	3,030,991	77,200	8.0	89.7	2.3	
Indiana.....	1919	16	73	18	855	54	718	83	6.3	84.0	4,089,300	213,353	3,549,404	326,673	5.2	86.8	8.0	
	1914	22	65	19	920	96	723	107	10.4	78.1	2,029,250	213,747	1,594,513	220,990	10.5	78.6	10.9	
Iowa.....	1919	4	28	14	504	13	430	61	2.6	85.3	1,841,012	46,810	1,513,915	280,287	2.5	82.2	16.2	
	1914	6	24	4	192	18	171	8	6.8	89.1	3,025	511,773	30,899	6.3	88.4	5.3		
Kansas.....	1919	39	64	34	822	74	656	92	9.0	79.8	3,500,107	300,870	2,892,105	378,132	8.8	80.4	10.8	
	1914	19	66	16	634	52	519	63	8.2	81.9	1,794,797	169,430	1,507,100	128,267	8.9	84.0	7.1	
Kentucky.....	1919	15	74	10	754	64	662	28	8.5	87.8	3,268,130	257,343	2,319,472	112,315	9.6	86.3	4.2	
	1914	14	68	11	766	73	638	55	9.5	83.3	7,241,806	126,079	1,201,729	83,158	8.6	85.7	5.6	
Louisiana.....	1919	12	55	3	785	81	665	39	10.3	84.7	5,000,000	329,088	3,518,856	141,702	8.3	88.2	3.6	
	1914	13	58	5	782	78	633	71	10.0	80.9	9,102,071	170,373	1,657,143	134,555	8.7	84.5	6.9	
Maryland.....	1919	18	35	8	632	46	556	30	7.3	88.0	4,717,377	204,590	2,301,665	151,116	7.5	86.0	5.6	
	1914	16	33	13	532	43	439	50	8.1	82.5	1,502,983	87,771	1,386,294	118,918	6.0	86.8	7.6	
Michigan.....	1919	1	13	4	742	—	719	123	—	96.9	3,120,000	2,821,688	2,686,800	135,888	—	100.0	4.8	
	1914	1	10	—	443	—	1,443	—	—	100.0	674,950	6,504,840	5,504,840	1,764,950	—	—	—	
Missouri.....	1919	28	79	22	1,174	72	1,054	48	6.1	89.8	3,211,222	351,252	5,908,732	184,858	5.4	81.8	2.8	
	1914	17	71	29	1,059	73	899	87	6.0	84.9	8,200,895	179,624	2,739,470	187,801	5.8	88.2	6.0	
New Jersey.....	1919	14	54	7	838	75	725	38	8.9	86.5	4,550,965	500,907	3,824,751	135,307	13.0	84.0	3.0	
	1914	13	52	6	621	74	616	31	11.9	83.1	5,156,361	222,051	1,277,917	56,393	14.3	82.1	3.6	
New York.....	1919	18	106	8	2,133	150	1,897	91	7.0	88.7	4,313,590	1,012,894	11,001,178	788,578	6.9	87.2	5.9	
	1914	21	82	8	1,407	118	1,223	66	8.4	86.9	4,800,778	349,030	4,304,030	243,718	7.1	87.9	5.0	
North Carolina.....	1919	10	48	5	757	36	705	16	4.8	93.1	2,365,122	118,141	2,196,375	50,000	5.0	92.9	2.1	
	1914	7	44	10	519	36	482	21	0.9	89.0	4,000,000	1,024,378	54,488	3,200,000	91.9	4.8	—	
Ohio.....	1919	84	88	19	1,952	148	1,730	74	7.6	88.6	3,008,061	578,198	9,334,473	295,890	5.7	91.4	2.9	
	1914	21	91	20	1,277	117	1,117	43	9.2	87.5	3,134,302	247,086	2,729,927	156,000	7.9	87.1	5.0	
Oklahoma.....	1919	15	79	21	831	30	738	65	3.6	88.6	3,574,481	111,802	3,191,482	271,087	3.1	89.3	7.6	
	1914	10	69	18	628	25	435	68	4.7	82.4	12,000	1,004,146	76,958	1,336,356	190,832	4.8	83.3	11.9
Pennsylvania.....	1919	47	148	31	2,733	200	2,389	144	7.3	87.4	12,688,299	954,193	10,901,763	830,343	7.5	85.9	6.5	
	1914	40	122	27	2,124	136	1,947	141	6.4	87.0	6,000	5,194,493	362,079	4,443,117	388,697	7.0	85	

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	10,585	7,260	4,635	572,970	461,988	317,789	100.0	100.0	100.0
Owned...									
Steam 1.....	4,927	5,317	4,207	437,487	420,947	310,211	76.4	93.1	97.6
Engines.....	4,434	5,013	4,170	406,942	414,035	304,085	71.0	89.8	95.9
Turbines.....	4,324	( <sup>2</sup> )	( <sup>2</sup> )	395,312	( <sup>2</sup> )	( <sup>2</sup> )	68.6	-----	-----
Internal-combustion engines.....	110	( <sup>2</sup> )	( <sup>2</sup> )	13,630	( <sup>2</sup> )	( <sup>2</sup> )	2.4	-----	-----
Water wheels, turbines, and motors.....	435	244	82	28,003	12,535	3,264	4.9	2.7	1.0
Rented...				58	60	45	2,542	2,727	2,262
Electric.....	5,658	1,943	338	135,483	32,041	7,578	23.6	6.9	2.4
Other.....	5,658	1,943	338	132,488	28,091	5,414	23.1	6.2	1.7
Electric.....	8,169	4,204	1,140	158,552	50,546	14,253	100.0	100.0	100.0
Rented.....	5,658	1,943	338	132,488	28,091	5,414	83.5	57.4	38.0
Generated by establishments reporting.....	2,511	2,261	802	26,114	21,555	8,839	16.5	42.6	62.0

<sup>1</sup> Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

\* Not reported separately.

TABLE 10.—FUEL CONSUMED, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year	COAL.				Gaso- line and other vol- atile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	Cen- sus year	COAL.				Gaso- line and other vol- atile oils (bar- rels).	Gas (1,000 cubic feet).	
		An- thracite (tons, 2,240 lbs.).	Bitumi- nous (tons, 2,000 lbs.).	Coke (tons 2,000 lbs.).	Fuel oils (barrels).					An- thracite (tons, 2,240 lbs.).	Bitumi- nous (tons, 2,000 lbs.).	Coke (tons 2,000 lbs.).	Fuel oils (barrels).			
United States.....	1919	205,875	3,309,636	32,327	1,622,473	11,076	6,170,964	Michigan.....	1919	13,295	.....	.....	.....	.....	.....	.....
	1914	213,541	3,386,275	30,493	1,292,068	(1)	7,592,003		1914	26,205	.....	25	(1)	.....	.....	.....
Alabama.....	1919	81,926	.....	5,300	102	.....	.....	Missouri.....	1919	295,493	.....	141,324	114	2,033	.....	.....
	1914	84,980	2,228	77	(1)	.....	.....		1914	317,521	.....	5,589	(1)	108,447	.....	.....
Arkansas.....	1919	1,090	46,084	.....	4,806	51	677,358	New Jersey.....	1919	53,119	92,057	414	3,379	46	.....	.....
	1914	1,520	43,695	.....	452	(1)	564,063		1914	63,048	58,547	300	684	(1)	.....	.....
California.....	1919	.....	1	.....	822,530	479	71,600	New York.....	1919	71,655	181,928	3,124	12,805	145	12,740	.....
	1914	.....	100	.....	588,536	(1)	560		1914	99,705	240,779	552	3,008	(1)	4,097	.....
Florida.....	1919	9	38,713	777	146,605	1,848	1,320	North Carolina.....	1919	64,087	.....	200	93	20	.....	3,000
	1914	1,000	52,533	9,600	40,208	(1)	.....		1914	232	50,540	.....	(1)	.....	.....	.....
Georgia.....	1919	149,910	450	.....	447	.....	.....	Ohio.....	1919	256	251,359	2	1,645	422,734	.....	.....
	1914	132,344	.....	14	(1)	.....	.....		1914	309	230,011	4	315	828,456	.....	.....
Illinois.....	1919	1,302	259,087	660	375	47	74	Oklahoma.....	1919	992	33,480	60,916	343	1,893,013	.....	.....
	1914	.....	322,908	215	178	(1)	90		1914	48,382	1,056	5,383	(1)	833,827	.....	.....
Indiana.....	1919	201,988	.....	211	103	.....	.....	Pennsylvania.....	1919	50,388	383,915	5,003	278	223,609	.....	.....
	1914	6	173,110	5,000	109	(1)	.....		1914	34,340	365,421	2,654	(1)	107,230	.....	.....
Iowa.....	1919	80	66,625	.....	2,765	.....	.....	South Carolina.....	1919	1,250	57,954	5,281	296	.....	.....	.....
	1914	51,541	.....	2,121	(1)	.....	.....		1914	525	45,711	14	(1)	.....	.....	.....
Kansas.....	1919	8	94,086	725	79,725	883	343,426	Tennessee.....	1919	147,800	560	24	83	.....	.....	.....
	1914	77,934	.....	34,734	(1)	771,973	.....		1914	130,069	.....	71	(1)	.....	.....	.....
Kentucky.....	1919	110,709	.....	195	119	241,694	.....	Texas.....	1919	7,133	184,012	21,822	528,865	2,646	980,332	.....
	1914	136,330	.....	225	(1)	348,409	.....		1914	1,660	240,747	2,022	412,171	(1)	2,608,586	.....
Louisiana.....	1919	81,207	263	175,832	152	619,288	.....	Virginia.....	1919	1,950	132,444	13	1,584	161	.....	.....
	1914	2,753	99,638	.....	48,973	(1)	278,097	.....		1914	103,432	3,000	205	(1)	.....	.....
Maryland.....	1919	6,650	84,691	.....	4,639	274	4,000	All other states.....	1919	9,984	267,925	3,519	111,207	814	676,533	.....
	1914	8,395	92,403	766	319	(1)	12		1914	5,033	282,344	5,260	145,820	(1)	1,134,576	.....

<sup>1</sup> Included in figures for fuel oils.

## SPECIAL STATISTICS.

**Detailed statistics of materials, products, and equipment.**—Certain additional detailed information concerning the quantity and cost of ammonia used, the quantity and value of products, and equipment used, was collected, by means of a supplemental schedule, data for which are presented in Table 11.

The consumption of ammonia by establishments making ice as a subsidiary product was not shown prior to 1914. Anhydrous ammonia represented 94.8 per cent of the total cost of ammonia used in 1919, both in the industry proper and in industries in which ice was made as a subsidiary product.

TABLE 11.—DETAILED STATISTICS OF QUANTITY, COST, AND VALUE: 1919, 1914, 1909, AND 1904.

	1919	1914	1909	1904
QUANTITY AND COST OF AMMONIA USED.				
Ammonia, total cost...	\$2,658,658	\$1,887,359	(1)	(1)
The ice industry.....	\$2,410,100	\$1,528,975	\$1,021,913	\$613,138
Other industries manufacturing ice as a subsidiary product .....	\$248,558	\$358,384	(1)	(1)
Anhydrous:				
Pounds.....	7,758,984	6,777,617	(1)	(1)
The ice industry.....	7,003,581	5,405,917	3,466,284	1,932,497
Other industries.....	755,403	1,371,700		
Used in—				
Compressor system.....	6,875,012	6,021,506	(1)	(1)
Absorption system.....	883,972	756,111		
Cost.....	\$2,510,427	\$1,777,005	(1)	(1)
The ice industry.....	\$2,274,889	\$1,421,198	\$926,505	\$522,275
Other industries.....	\$244,538	\$355,890	(1)	(1)
Aqua:				
Pounds.....	1,740,825	1,971,046	(1)	(1)
The ice industry.....	1,675,626	1,927,664	1,670,698	1,495,934
Other industries.....	65,199	43,382	(1)	(1)
Used in—				
Compressor system.....	94,102	1,971,046	(1)	(1)
Absorption system.....	1,646,723			
Cost.....	\$139,231	\$110,284	(1)	(1)
The ice industry.....	\$155,211	\$107,770	\$95,408	\$90,863
Other industries.....	\$4,020	\$2,485	(1)	(1)
PRODUCTS.				
Total value.....	\$149,515,630	\$67,320,353	\$47,202,845	\$25,689,957
The ice industry.....	\$137,004,798	\$60,386,267	\$42,958,055	\$23,790,045
Subsidiary products from other industries.....	\$12,510,832	\$6,934,086	\$4,249,790	\$1,899,912
Ice:				
Tons (2,000 pounds).....	27,948,468	21,043,063	14,230,208	8,014,137
The ice industry.....	25,292,846	18,824,691	12,647,949	7,199,448
Other industries.....	2,655,617	2,718,372	1,582,259	814,089
Value.....	\$138,795,342	\$62,192,413	\$44,139,053	\$24,350,415
The ice industry.....	\$126,284,510	\$55,255,327	\$39,889,263	\$22,450,503
Other industries.....	\$12,510,832	\$6,934,086	\$4,249,790	\$1,899,912
By kinds—				
Can ice—				
Tons.....	26,577,637	19,635,368	13,177,991	(1)
The ice industry.....	24,053,632	17,145,691	11,671,547	6,695,789
Other industries.....	2,494,005	2,480,769	1,506,444	(1)
Value.....	\$133,082,307	\$68,593,861	\$41,123,901	(1)
The ice industry.....	\$121,235,615	\$52,150,488	\$37,085,533	\$21,020,547
Other industries.....	\$11,846,602	\$6,443,373	\$4,038,368	(1)
Plate ice—				
Tons.....	1,370,826	1,407,695	1,062,217	(1)
The ice industry.....	1,209,214	1,179,092	976,402	503,659
Other industries.....	161,612	228,003	75,815	(1)
Value.....	\$5,713,035	\$3,598,552	\$2,015,162	(1)
The ice industry.....	\$5,048,895	\$3,107,839	\$2,803,730	\$1,429,956
Other industries.....	\$664,140	\$490,713	\$211,422	(1)
Cold-storage receipts.....	\$7,142,998	\$5,127,940	\$3,063,792	\$1,339,542
All other products.....	\$3,577,290			
EQUIPMENT.				
Machines:				
Number.....	5,323	4,949		
Capacity, tons (per day of 24 hours).....	260,179	129,998	(1)	(1)
Storage space, cubic feet:				
For ice storage.....	115,313,000	100,574,000		
For cold storage.....	79,958,000	82,694,000		

<sup>1</sup> Figures not available.

The total value of products given in the table includes receipts from cold storage and refrigeration by establishments in the ice industry proper, but does not include receipts from this source by establishments making ice as a subsidiary product. The value of ice produced in establishments engaged primarily in its manufacture increased \$71,026,183, or 128.5 per cent, between 1914 and 1919 as compared with \$15,369,064, or 38.5 per cent, between 1909 and 1914. The percentages of increase in quantities for the same periods were 38 and 44.9, respectively. The output of ice by establishments manufacturing it as a subsidiary product constituted 9.5 per cent of the total production in 1919 against 12.9 per cent in 1914.

Of the total number of machines in use, 4,523, or 85 per cent, with a combined capacity of 232,359 tons per day of 24 hours, or an average of 51 tons per machine, were reported by establishments manufacturing ice as their principal product, and 800, or 15 per cent, with a daily capacity of 36,820 tons, or an average of 46 tons per machine, by establishments making ice as a subsidiary product.

**Quantity and value of manufactured ice, by states.**—Table 12 shows for 1919 and 1914, by states, the number of establishments in the ice industry and in industries manufacturing ice as a subsidiary product with the total quantity and value of ice made by each class. The relative importance of the several states is but little affected by the addition of the ice reported by establishments in other industries. The total production of the seven leading states in 1919, each of which reported more than 1,000,000 tons for the year, aggregated 15,314,199 tons, or 54.8 per cent of the total output. The greatest absolute increase for the five-year period from 1914 to 1919, 970,061 tons, is shown by Illinois; the next largest, 924,517 tons, by New York; and Pennsylvania third largest with 584,055 tons.

**Number of establishments, by systems used.**—The distribution of the number of establishments by systems used in 1919 and 1914 is presented in Table 13. Of the establishments engaged primarily in the manufacture of ice for sale in 1919, 85 per cent used the compressor system solely, 12.2 per cent used the absorption, and 2.7 per cent used both systems. The compressor system predominated in every state in 1919, except Indiana and Kentucky, where 50 per cent and 50.5 per cent, respectively, of the establishments used the absorption system.

**Number of machines used, by system and capacity.**—In Table 14 is shown, for 1919, the number of machines by rated capacity (tons of refrigeration, ice making or ice equivalent) per day of 24 hours, by system used. The compressor system used 88.6 per cent of the anhydrous ammonia, and the absorption system 94.6 per cent of all aqua ammonia reported.

## MANUFACTURES.

Quantity of ice manufactured, by kind of water used.—Table 15 shows for 1919, by states, the quantity and kind of ice produced from distilled and raw water. Of the total ice produced by establishments in the ice industry in 1919, the report showed that 62.7 per cent

of the output was made from distilled water. The production of can ice largely predominated in all the states, only 1,209,214 tons, or 4.8 per cent of the total amount of ice produced, having been made by the plate method.

TABLE 12.—MANUFACTURED ICE, QUANTITY AND VALUE, BY STATES: 1919 AND 1914.

STATE.	Census year.	NUMBER OF ESTABLISHMENTS MANUFACTURING ICE.			ICE MANUFACTURED.					
		Total.	In ice industry.	In other industries.	Total.		By establishments manufacturing ice.		By establishments in other industries.	
					Quantity (tons 2,000 lbs.).	Value.	Quantity (tons 2,000 lbs.).	Value.	Quantity (tons 2,000 lbs.).	Value.
United States.....	1919	3,455	2,867	588	27,948,463	\$138,795,342	25,292,840	\$126,284,510	2,655,617	\$12,510,832
	1914	3,077	2,643	534	21,043,063	62,102,413	18,324,694	55,253,327	2,718,372	6,934,080
Alabama.....	1919	71	59	12	422,113	2,244,269	379,541	1,968,210	42,572	270,059
	1914	64	55	9	302,774	1,307,818	307,866	1,148,893	54,918	158,925
Arizona.....	1919	34	31	3	161,663	1,240,408	158,848	1,211,618	2,815	37,700
	1914	29	27	2	126,008	746,473	(1)	(1)	(1)	(1)
Arkansas.....	1919	76	71	5	382,443	2,100,607	359,888	1,089,355	22,605	117,252
	1914	71	65	6	280,290	1,118,125	246,254	1,058,181	14,036	62,044
California.....	1919	136	117	19	1,551,703	5,832,421	1,492,981	5,520,410	58,722	312,011
	1914	116	95	21	1,047,941	2,801,304	1,021,569	2,633,426	26,382	167,378
Colorado.....	1919	34	27	7	230,199	1,093,891	205,671	974,430	24,528	119,401
	1914	34	32	2	177,570	608,434	(1)	(1)	(1)	(1)
Connecticut.....	1919	14	9	5	121,664	718,889	80,337	491,738	41,327	227,151
	1914	9	5	4	66,275	188,304	53,410	159,365	12,805	28,030
Delaware.....	1919	20	17	3	95,309	680,074	68,006	659,583	2,393	20,491
	1914	20	18	2	87,880	308,861	(1)	(1)	(1)	(1)
District of Columbia.....	1919	14	10	4	287,549	927,721	225,897	799,276	41,652	128,445
	1914	13	8	5	272,208	684,633	119,900	283,642	152,308	300,991
Florida.....	1919	102	95	7	695,310	4,129,174	658,918	3,865,492	41,398	263,082
	1914	98	92	6	481,158	2,241,031	449,675	2,102,276	31,483	183,755
Georgia.....	1919	74	70	4	782,180	4,248,183	742,747	4,184,969	19,442	63,214
	1914	77	74	3	575,595	1,946,688	583,280	1,916,117	12,315	30,451
Idaho.....	1919	21	15	6	45,306	277,036	39,948	233,343	5,358	43,093
	1914	16	10	6	20,307	119,747	16,594	98,460	3,718	21,287
Illinois.....	1919	190	154	36	2,430,812	10,675,692	2,194,093	9,735,215	236,710	940,477
	1914	165	128	37	1,460,751	3,650,844	1,283,858	3,280,012	176,893	370,832
Indiana.....	1919	126	107	19	915,408	4,094,065	828,773	3,720,194	86,635	373,871
	1914	130	106	24	784,553	2,089,023	643,622	1,879,178	90,781	209,845
Iowa.....	1919	63	46	17	324,844	1,907,033	289,910	1,680,358	34,934	226,675
	1914	64	34	10	214,232	651,341	188,928	552,076	25,304	99,205
Kansas.....	1919	157	137	20	656,785	3,823,696	583,202	3,292,601	98,583	531,095
	1914	118	101	17	598,631	1,912,032	487,763	1,666,156	109,068	245,876
Kentucky.....	1919	112	99	13	595,960	2,810,094	507,993	2,525,987	87,967	284,107
	1914	107	93	14	459,600	1,408,826	427,662	1,317,550	31,933	89,276
Louisiana.....	1919	77	70	7	770,962	3,839,473	751,525	3,713,911	19,437	125,592
	1914	79	76	3	598,680	1,911,018	590,933	1,879,672	7,747	31,340
Maryland.....	1919	76	61	15	648,494	2,741,496	611,908	2,592,398	34,586	149,098
	1914	68	62	6	552,978	1,494,246	535,737	1,451,238	17,241	43,008
Massachusetts.....	1919	15	12	3	177,568	804,111	155,268	745,098	22,298	149,013
	1914	8	6	2	80,526	191,402	(1)	(1)	(1)	(1)
Michigan.....	1919	25	18	7	477,538	3,040,957	422,120	2,788,882	55,416	257,075
	1914	16	11	5	228,901	846,471	178,236	744,353	51,685	101,118
Minnesota <sup>2</sup> .....	1919	8	5	3	126,513	365,315	118,341	333,078	8,172	32,237
Mississippi.....	1919	61	50	11	266,592	1,750,879	223,573	1,476,380	43,019	274,499
	1914	66	58	8	259,741	1,116,537	223,732	973,687	36,009	142,870
Missouri.....	1919	166	129	37	1,491,062	6,744,289	1,320,000	5,046,217	171,062	708,072
	1914	160	117	33	1,493,066	3,816,290	1,167,077	2,649,863	205,989	686,437
Montana <sup>2</sup> .....	1919	8	5	3	18,895	106,258	7,381	51,057	11,014	55,201
Nebraska.....	1919	51	33	18	274,415	1,391,894	180,453	890,189	93,962	501,755
	1914	28	18	11	193,424	568,550	117,464	818,050	75,960	250,500
New Jersey.....	1919	83	75	8	838,874	4,549,590	801,716	4,358,697	37,158	190,893
	1914	76	71	5	648,650	1,524,329	629,763	1,488,740	18,887	35,589
New Mexico.....	1919	16	13	3	80,390	496,357	75,157	448,598	5,242	47,759
	1914	18	15	3	55,385	243,513	(1)	(1)	(1)	(1)

<sup>1</sup> Combined to avoid disclosure of individual operations.<sup>2</sup> Figures for 1914 can not be shown without disclosing operations of individual establishments.

## MANUFACTURED ICE.

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TABLE 12.—MANUFACTURED ICE, QUANTITY AND VALUE, BY STATES: 1919 AND 1914—Continued.

STATE.	Census year.	NUMBER OF ESTABLISHMENTS MANUFACTURING ICE.			ICE MANUFACTURED.					
		Total.	In ice industry.	In other industries.	Total.		By establishments manufacturing ice.		By establishments in other industries.	
					Quantity (tons 2,000 lbs.).	Value.	Quantity (tons 2,000 lbs.).	Value.	Quantity (tons 2,000 lbs.).	Value.
New York.....	1919	152	132	20	3,484,522	\$13,863,030	3,214,659	\$12,731,812	280,883	\$1,131,218
	1914	141	111	30	2,580,005	5,408,204	2,143,681	4,649,480	416,324	758,724
North Carolina.....	1919	70	63	7	412,055	2,434,805	383,574	2,255,308	28,481	179,497
	1914	68	61	7	286,783	1,119,084	256,568	1,060,550	10,215	62,634
Ohio.....	1919	212	141	71	1,936,127	10,720,401	1,551,814	9,117,501	384,313	1,602,900
	1914	193	132	61	1,445,060	3,395,737	1,136,071	2,680,187	308,989	715,550
Oklahoma.....	1919	124	115	9	542,043	3,520,067	507,683	3,314,621	34,380	200,046
	1914	104	97	7	366,407	1,036,330	317,507	1,518,395	48,900	117,935
Oregon.....	1919	46	30	16	102,840	486,040	79,234	359,947	23,606	126,093
	1914	44	27	17	88,013	392,860	68,128	300,191	19,885	92,660
Pennsylvania.....	1919	295	226	69	2,715,576	12,698,211	2,513,490	11,812,878	202,086	885,333
	1914	256	189	67	2,181,521	6,810,716	1,959,742	4,934,429	171,779	885,287
Rhode Island <sup>1</sup> .....	1919	8	4	4	19,400	182,470	12,078	100,552	7,391	51,918
South Carolina.....	1919	58	54	4	299,783	2,037,147	282,275	1,990,884	7,508	40,263
	1914	39	36	3	188,227	842,639	177,758	807,736	10,460	34,003
Tennessee.....	1919	80	73	7	555,481	3,820,948	521,814	3,629,365	38,667	200,583
	1914	80	70	10	515,344	1,885,148	474,482	1,704,370	41,382	130,778
Texas.....	1919	291	265	26	1,704,397	9,651,555	1,537,828	8,810,384	166,580	832,221
	1914	291	255	36	1,388,864	5,305,733	1,149,074	4,981,332	239,790	824,401
Virginia.....	1919	115	106	9	649,514	3,477,060	636,111	3,392,452	18,493	85,538
	1914	95	87	8	481,236	1,663,432	446,047	1,557,065	35,189	108,367
Washington.....	1919	70	42	28	180,023	788,512	142,788	616,385	37,285	172,127
	1914	68	32	26	194,670	680,566	112,244	431,349	82,435	249,217
West Virginia.....	1919	68	54	14	324,846	1,549,528	271,155	1,341,448	53,601	208,080
	1914	61	47	14	255,235	702,300	203,757	661,040	51,478	131,260
All other states <sup>2</sup> .....	1919	36	27	9	190,598	846,166	144,248	603,789	46,348	242,377
	1914	20	22	4	135,005	397,944	628,320	2,355,208	36,045	138,329

<sup>1</sup> Figures for 1914 can not be shown without disclosing operations of individual establishments.<sup>2</sup> All other states for 1919 embrace: Maine, 2 establishments; Nevada, 5; North Dakota, 1; South Dakota, 4; Utah, 10; Wisconsin, 4; and Wyoming, 1. All other states for 1914 include Minnesota, 2 establishments; Montana, 2; Nevada, 6; Rhode Island, 2; South Dakota, 1; Utah, 11; Wisconsin, 2; and Wyoming, 1.

TABLE 13.—NUMBER OF ESTABLISHMENTS, BY SYSTEMS USED: 1919 AND 1914.

STATE.	TOTAL.		USING COMPRESSOR SYSTEM SOLELY.		USING ABSORPTION SYSTEM SOLELY.		STATE.	TOTAL.		USING COMPRESSOR SYSTEM SOLELY.		USING ABSORPTION SYSTEM SOLELY.		USING BOTH SYSTEMS.		
			1919	1914	1919	1914		1919	1914	1919	1914	1919	1914	1919		
	1919	1914	1919	1914	1919	1914	1919	1919	1914	1919	1914	1919	1914	1919	1914	
United States.....	12,867	2,543	2,438	2,077	351	417	77	49								
Alabama.....	59	55	37	33	17	20	5	2	Mississippi.....	50	58	43	46	6	11	1
Arizona.....	31	27	31	26	1	1			Missouri.....	129	117	113	108	13	9	3
Arkansas.....	71	65	63	57	3	7			Montana.....	5	1	5	1			
California.....	117	95	116	90	1	1	4		Nebraska.....	33	18	29	16	3	2	1
Colorado.....	27	32	25	29	2	3			New Jersey.....	75	71	65	60	6	11	4
Connecticut.....	9	5	9	5					New Mexico.....	13	15	11	13	1	2	1
Delaware.....	17	18	17	18					New York.....	132	111	121	100	9	11	2
District of Columbia.....	10	8	10	8					North Carolina.....	63	61	53	49	9	0	3
Florida.....	95	92	55	44	34	46	6	2	Ohio.....	141	132	111	104	21	24	9
Georgia.....	70	74	58	50	9	23	3	1	Oklahoma.....	115	97	108	91	5	2	1
Idaho.....	15	10	14	10	1				Oregon.....	30	27	30	27			
Illinois.....	154	128	131	108	10	20	4	7	Pennsylvania.....	226	189	211	175	11	9	5
Indiana.....	107	106	44	46	53	53	9	7	Rhode Island.....	4	2	4	2			
Iowa.....	46	34	42	31	2	2	2	1	South Carolina.....	54	36	46	28	7	4	1
Kansas.....	137	101	124	90	9	9	4	2	Tennessee.....	73	70	51	50	17	19	5
Kentucky.....	99	83	45	34	50	55	4	4	Texas.....	265	255	257	241	6	11	2
Louisiana.....	70	76	51	58	18	18	1		Utah.....	17	10	16	10	1		
Maryland.....	61	62	58	68	2	4	1		Virginia.....	106	87	95	71	10	15	1
Massachusetts.....	12	6	10	5	2	1			Washington.....	42	32	41	31	1		
Michigan.....	18	11	17	11	1				West Virginia.....	54	47	52	38	2	11	
Minnesota.....	5	2	5	2					All other states.....	7	6	6	6	1		

<sup>1</sup> Includes 1 establishment using the vacuum system.

## MANUFACTURES.

TABLE 14.—NUMBER OF MACHINES USED, BY SYSTEM AND CAPACITY: 1919.

CAPACITY.	Total number of machines.	SYSTEM.		CAPACITY.	Total number of machines.	SYSTEM.	
		Compressor.	Absorption.			Compressor.	Absorption.
United States.....	4,523	3,902	561	20 but less than 30 tons.....	707	606	101
Less than 10 tons.....	523	477	46	30 but less than 50 tons.....	735	632	103
10 but less than 20 tons.....	807	684	123	50 but less than 100 tons.....	956	838	117
				100 tons or more.....	795	724	71

TABLE 15.—QUANTITY OF ICE MANUFACTURED, BY KIND OF WATER USED: 1919.

STATE.	QUANTITY (TONS 2,000 POUNDS).				STATE.	QUANTITY (TONS 2,000 POUNDS).			
	Total.	Distilled water.		Raw water.			Total.	Distilled water.	
		Can ice.	Plateice	Can ice.	Plateice	Can ice.		Plateice	
United States.....	25,292,846	15,703,906	144,660	8,379,726	1,064,554	Mississippi.....	223,573	206,363	17,210
Alabama.....	379,541	323,907	18,782	39,362	2,400	Missouri.....	1,320,000	1,089,341	1,900
Arizona.....	158,848	80,960	—	77,888	—	Montana.....	7,381	—	7,381
Arkansas.....	359,838	274,879	5,424	79,535	—	Nebraska.....	180,453	106,031	74,422
California.....	1,492,981	445,321	250	1,010,199	28,211	New Jersey.....	801,718	504,577	32,627
Colorado.....	206,671	202,246	2,745	680	—	—	—	214,812	50,200
Connecticut.....	80,337	51,060	—	11,653	16,724	New Mexico.....	75,157	67,686	7,471
Delaware.....	93,006	5,098	950	20,616	50,442	New York.....	3,214,659	1,140,940	29,655
District of Columbia.....	225,897	60,122	4,000	15,503	146,182	North Carolina.....	383,574	347,477	38,097
Florida.....	653,918	575,697	7,358	57,363	13,500	Ohio.....	1,551,814	1,146,434	399,500
Georgia.....	742,747	626,304	2,475	77,068	—	Oklahoma.....	507,083	485,549	13,878
Idaho.....	39,948	1,568	—	24,138	14,242	Oregon.....	79,234	2,133	73,376
Illinois.....	2,194,093	1,005,655	—	1,188,438	—	Pennsylvania.....	2,513,490	1,361,829	27,224
Indiana.....	828,773	730,910	219	97,644	—	Rhode Island.....	12,078	6,001	3,128
Iowa.....	289,910	175,665	—	100,760	13,485	South Carolina.....	292,275	178,990	113,285
Kansas.....	563,202	492,279	1,800	69,123	—	South Dakota.....	5,795	2,700	3,095
Kentucky.....	507,998	469,226	—	38,787	—	Tennessee.....	521,814	481,556	4,280
Louisiana.....	761,525	701,941	—	49,684	—	Texas.....	1,531,828	1,280,297	730
Maryland.....	611,908	268,633	—	139,400	178,075	Utah.....	89,949	80,637	2,998
Massachusetts.....	155,268	9,317	—	119,258	26,093	Virginia.....	636,111	431,150	8,532
Michigan.....	422,120	32,578	—	389,542	—	Washington.....	142,738	35,853	86,902
Minnesota.....	118,341	—	—	118,341	—	West Virginia.....	273,155	235,956	700
						All other states.....	46,504	22,461	26,053



## MANUFACTURES.

TABLE 17.—DETAILED STATEMENT,

STATE.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.	
		Total.	Propri- tors and firm mem- bers.	Sala- ried offi- cers, super- in- tend- ents, and man- agers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.			
					Male.	Fe- male.	Ave- rage num- ber.	Number, 15th day of—		Male.		Male.	Fe- male.	Male.	Fe- male.		
1 United States.....	2,887	33,605	1,566	3,873	1,874	1,045	30,247	Jy	41,078	Ja	20,796	31,101	30,654	258	187	2	Dollars. 270,725,786
2 Alabama.....	59	713	41	76	26	17	553	Au	759	Fe	357	572	557	3	12	4,414,642	
3 Arizona.....	31	360	23	36	25	4	272	Jy	365	Ja	184	226	226	.....	1,928,003		
4 Arkansas.....	71	688	50	76	18	13	525	Jy	835	Ja	297	508	507	1	.....	3,787,120	
5 California.....	117	1,895	85	146	83	46	1,535	Au	1,938	Ja	1,177	1,561	1,554	3	4	21,547,099	
6 Colorado.....	27	316	12	37	18	7	242	Au	403	Ja	156	284	284	.....	2,500,478		
7 Connecticut.....	9	103	8	16	7	5	67	Au	98	Fe	38	61	58	3	.....	837,756	
8 Delaware.....	17	165	10	16	1	1	131	Au	213	Ja	75	109	109	.....	1,115,970		
9 District of Columbia.....	10	296	1	33	22	2	238	Au	263	De	210	244	242	2	.....	4,120,741	
10 Florida.....	95	1,702	51	127	87	25	1,412	Se	1,549	Ja	1,312	1,527	1,499	26	2	12,614,312	
11 Georgia.....	70	1,412	31	122	124	20	1,115	Jy	1,320	Ja	965	1,163	1,152	10	1	8,393,066	
12 Idaho.....	15	84	11	10	4	3	56	Au	93	Ja	32	60	59	1	.....	561,560	
13 Illinois.....	164	2,140	42	255	98	64	1,081	Au	2,303	Ja	1,084	1,592	1,572	20	.....	17,697,026	
14 Indiana.....	107	1,188	60	184	42	47	855	Jy	1,321	Ja	488	821	808	12	6	6,889,598	
15 Iowa.....	46	601	35	65	32	25	504	Jy	717	De	313	336	333	3	.....	4,620,865	
16 Kansas.....	137	1,098	113	105	25	33	822	Au	1,309	Ja	468	804	881	5	8	5,463,771	
17 Kentucky.....	99	901	35	118	31	23	754	Jy	1,140	Fe	420	741	736	3	2	6,266,468	
18 Louisiana.....	70	1,022	19	137	60	21	785	Jy	1,008	Fe	599	801	782	5	14	5,580,193	
19 Maryland.....	61	775	41	60	36	6	632	Au	859	Ja	426	783	781	2	.....	5,609,036	
20 Massachusetts.....	12	182	4	15	9	1	153	Au	182	Ja	119	160	160	.....	2,062,115		
21 Michigan.....	18	868	14	66	12	34	742	Jy	1,084	Ja	460	769	748	21	.....	5,105,412	
22 Minnesota.....	5	122	15	7	7	7	93	Au	105	Ja	78	94	93	1	.....	899,401	
23 Mississippi.....	50	557	29	57	17	7	447	Au	623	Ja	302	479	478	1	.....	2,086,356	
24 Missouri.....	129	1,554	85	174	70	51	1,174	Au	1,642	Ja	702	1,351	1,320	24	1	13,614,580	
25 Montana.....	5	24	5	1	2	2	14	Je	18	Ja	10	14	14	.....	74,419		
26 Nebraska.....	33	335	31	25	18	4	257	Au	407	De	140	191	190	1	.....	1,348,145	
27 New Jersey.....	75	1,033	28	116	32	19	838	Au	1,123	Fe	572	961	933	3	25	6,335,620	
28 New Mexico.....	18	137	2	12	4	4	115	Au	178	Ja	57	132	131	1	.....	621,036	
29 New York.....	132	2,568	37	220	104	59	2,138	Au	2,604	Ja	1,531	2,172	2,138	5	29	23,301,071	
30 North Carolina.....	63	922	25	100	26	14	757	Jy	1,031	Ja	503	687	673	2	12	3,257,859	
31 Ohio.....	141	2,544	85	215	87	20	1,052	Jy	2,959	Ja	1,148	2,176	2,143	33	.....	16,990,167	
32 Oklahoma.....	115	1,185	84	167	66	37	831	Au	1,338	Ja	469	918	881	5	31	1,712,039	
33 Oregon.....	30	159	24	18	5	4	108	Jy	167	Ja	68	115	115	.....	1,123,400		
34 Pennsylvania.....	226	3,468	118	291	238	88	2,783	Ja	3,078	Ja	1,908	2,876	2,837	30	9	27,590,466	
35 Rhode Island.....	4	27	3	2	2	2	20	Jo	34	Ja	0	34	33	1	.....	121,178	
36 South Carolina.....	54	727	23	80	32	8	534	Au	791	Ja	386	646	646	.....	3,850,015		
37 South Dakota.....	3	11	2	1	-----	-----	8	Jy	14	Ja	4	4	4	7	.....	80,964	
38 Tennessee.....	73	1,206	43	99	73	18	1,063	Au	1,551	Ja	691	1,063	1,051	5	7	5,099,180	
39 Texas.....	265	3,168	140	357	250	59	2,362	Au	3,305	Ja	1,527	2,252	2,239	4	9	20,265,185	
40 Utah.....	17	119	5	5	4	-----	105	Se	177	Ja	48	80	80	.....	1,000,741		
41 Virginia.....	106	1,227	58	127	49	24	969	Jy	1,459	Fe	641	983	958	21	4	8,132,158	
42 Washington.....	42	280	24	30	11	14	181	Au	235	Ja	142	195	193	1	1	1,674,797	
43 West Virginia.....	54	473	22	48	17	14	372	Jy	513	Ja	235	409	407	2	.....	3,326,085	
44 All other states <sup>a</sup> .....	7	70	1	13	2	2	52	.....	.....	.....	57	48	48	9	.....	688,314	

<sup>a</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).<sup>b</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

## MANUFACTURED ICE.

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BY STATES: 1919.

EXPENSES.												POWER.											
Salaries and wages.			Rent and taxes.			For materials.			Value of products.	Value added by manufacture.	Primary horsepower.						Electric horse-power generated in establishments reporting.						
Officials.	Clerks, etc.	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.		Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>1</sup>	Rent-ed. <sup>2</sup>									
Dollars. 8,109,243	Dollars. 2,842,888	Dollars. 34,001,837	Dollars. 234,167	Dollars. 771,325	Dollars. 4,946,061	Dollars. 17,271,245	Dollars. 25,606,264	Dollars. 137,004,798	Dollars. 94,127,289	572,970	303,312	13,030	28,003	2,542	135,483	26,114	1						
163,303	39,028	475,817	604	1,070	66,852	302,378	477,371	2,085,975	1,306,226	9,658	7,764	45	-----	1,849	108	2							
87,814	26,848	371,838	5,238	5,973	46,015	204,608	347,630	1,410,148	707,910	4,557	2,781	20	539	40	101	3							
184,874	29,814	490,260	418	57,076	58,973	306,117	448,380	2,182,331	1,377,834	13,516	11,401	670	-----	875	435	4							
370,238	155,615	1,955,056	5,763	41,966	269,748	840,972	1,354,723	7,112,470	9,10,775	82,113	9,039	475	1,784	155	20,660	1,459	5						
54,700	29,900	274,403	400	3,660	37,326	54,106	189,178	1,045,477	502,138	5,025	4,750	35	18	-----	216	6							
36,655	14,792	90,988	-----	2,077	26,345	73,778	115,938	405,820	306,109	1,646	1,150	45	105	340	91	7							
31,200	6,370	193,847	421	-----	14,582	177,765	101,641	659,583	380,177	1,597	1,064	-----	143	25	365	20							
62,842	37,473	299,524	7,800	64,777	180,429	287,580	1,080,000	602,048	6,258	1,954	-----	1,475	391	2,438	506	9							
214,707	102,939	1,153,136	1,400	33,537	96,851	613,546	910,304	4,051,516	2,527,666	18,011	15,049	1,618	742	1	601	1,405	10						
251,683	163,300	1,056,699	2,408	5,723	138,257	671,600	907,493	4,440,249	12,670	12,670	125	27	-----	1,427	672	11							
28,010	6,162	69,755	85	1,590	7,542	15,281	32,358	272,221	224,582	1,258	50	75	-----	1,133	12	12							
820,363	153,395	2,220,295	2,865	23,603	464,795	968,582	1,546,986	10,093,263	7,578,745	41,110	10,095	2,185	27	30	22,773	1,278	13						
307,030	84,963	868,498	14,501	9,657	118,700	668,170	745,125	4,088,380	2,676,095	12,075	10,268	145	62	-----	1,800	376	14						
157,449	46,356	539,271	3,029	5,676	56,446	186,727	345,750	1,941,012	1,308,536	5,859	4,140	-----	446	1,274	371	15							
200,887	46,304	937,639	450	4,875	121,461	416,531	702,497	3,509,107	2,300,070	16,508	13,400	50	1,162	185	1,700	607	16						
180,038	44,180	602,432	3,015	10,319	66,163	238,513	575,381	2,689,130	1,775,236	12,548	10,706	187	440	3	1,212	506	17						
281,494	73,401	783,099	9,523	2,380	170,966	536,073	784,574	3,990,324	2,667,687	14,730	12,120	160	820	50	2,080	1,544	18						
99,136	40,388	708,752	-----	3,277	71,770	402,305	574,454	2,717,377	1,740,018	11,993	9,757	40	1,645	70	481	1,050	19						
22,056	10,655	201,347	-----	9,829	49,694	30,906	152,084	745,098	502,106	3,935	3,540	108	176	150	21	759	20						
153,121	80,101	1,180,323	-----	-----	81,299	452,670	264,766	2,821,688	2,104,252	8,137	1,328	-----	-----	6,809	3	21							
25,740	11,115	90,034	-----	2,190	34,657	55,194	333,078	243,227	1,671	-----	100	-----	1,571	-----	22	22							
89,631	26,609	371,546	100	2,039	61,042	210,950	348,035	1,515,223	946,338	6,298	5,750	150	-----	389	129	23							
351,527	92,038	1,426,044	7,010	36,840	242,273	884,972	1,423,021	6,504,840	4,306,847	29,116	24,486	785	529	-----	3,316	1,504	24						
3,000	2,708	24,270	-----	1,566	1,118	3,061	18,465	56,682	39,536	204	20	-----	244	25	161	26							
38,405	24,135	342,153	4,100	5,846	10,900	79,548	250,570	447,286	617,168	4,288	1,467	680	65	2,016	1,019	31							
248,141	48,955	1,032,529	5,870	2,300	106,270	440,000	903,241	4,550,965	3,207,724	14,454	12,145	700	879	90	750	722	27						
18,833	5,414	123,999	12,581	10,425	83,911	107,089	408,474	277,474	2,269	1,389	186	20	665	104	28								
673,572	183,748	2,909,561	50,399	256,714	541,810	1,283,892	2,593,800	18,808,590	9,430,898	54,531	26,049	634	2,510	25,833	2,739	29							
163,026	40,925	646,201	5,403	15,588	70,097	322,201	435,041	2,365,122	1,603,980	7,415	6,249	175	132	85	774	253	30						
516,857	237,488	2,617,976	3,800	14,067	272,901	1,394,055	1,504,006	10,208,061	7,310,000	34,930	26,474	795	841	-----	6,820	1,019	31						
257,928	78,322	944,215	4,496	4,125	168,141	879,480	864,580	3,574,431	2,530,356	18,304	14,280	725	9,201	1,128	769	32							
45,922	12,126	157,943	555	15,450	22,438	20,927	83,731	556,002	451,344	2,440	116	-----	195	2,180	33								
593,307	304,740	3,201,918	33,547	75,392	427,414	1,870,957	2,258,215	12,686,299	8,518,127	51,516	41,355	306	2,350	295	7,210	2,961	34						
1,600	470	23,888	300	7,304	1,115	17,411	14,673	100,552	68,483	419	100	225	-----	4	35								
132,967	44,032	466,240	-----	3,004	43,197	312,699	309,080	2,012,380	1,200,712	8,954	6,845	667	376	1,066	224	36							
1,800	12,027	484	-----	1,024	8,968	31,084	20,147	158	-----	12	-----	146	-----	37									
194,783	98,007	1,247	4,677	109,353	587,012	615,746	3,774,291	2,620,088	11,087	10,650	20	24	80	313	416	38							
675,413	309,033	2,222,930	59,519	18,788	442,748	1,250,185	1,894,730	9,811,081	6,666,146	55,879	42,694	1,033	5,664	210	5,878	2,763	30						
7,600	3,400	124,209	240	664	12,134	23,751	65,584	305,855	306,620	2,152	1,480	153	57	402	40								
243,817	72,883	975,667	6,996	54,502	161,183	458,512	739,569	3,904,689	2,766,558	18,670	14,875	414	997	275	2,100	393	41						
57,862	16,874	271,390	-----	9,031	37,270	70,496	109,342	810,065	639,827	4,318	724	-----	45	3,549	90	42							
89,365	27,676	419,867	375	350	53,038	244,819	238,922	1,514,501	1,021,560	8,100	6,344	295	450	25	956	120	43						
24,592	3,294	71,339	-----	560	4,969	17,749	60,768	222,052	144,145	860	600	103	-----	73	75	44							

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> None reported for one or more other months.<sup>3</sup> All other states embrace: Maine, 2 establishments; Nevada, 2; North Dakota, 1; Wisconsin, 1; and Wyoming, 1.

## MUSICAL INSTRUMENTS.

### SUMMARY AND ANALYSIS.

**Scope of the report.**—This report presents statistics for the manufacture of (1) pianos, organs, and piano and organ materials; (2) musical instruments and materials not specified; and (3) phonographs, graphophones, and talking machines. The products of the establishments assigned to these three classes are so dissimilar that a combination of the three would have little, if any, significance. For this reason each class is treated in a separate section. The manufacture of phonographs has so increased as to make it the most

important of the three industries with regard to the value of products.

Table 1 presents combined statistics for five classes of establishments engaged in the manufacture of pianos; organs; piano and organ materials; metal and stringed instruments and materials; and phonographs, graphophones, and talking machines for the census years from 1849 to 1919, inclusive. This is the only table showing combined statistics for the five industries.

TABLE 1.—COMPARATIVE SUMMARY FOR THE COMBINED INDUSTRY: 1849-1919.

CENSUS YEAR,	MUSICAL INSTRUMENTS AND MATERIALS.							
	Number of establish- ments.	Wage earners (average number).	Primary horsepower.	Capital.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
1910.....	778	68,741	91,258	\$268,318,333	\$75,807,659	\$137,459,827	\$320,905,149	\$183,446,322
1914.....	737	48,768	57,002	168,618,245	30,884,668	49,323,415	119,688,723	70,365,313
1909.....	712	45,041	49,417	120,895,331	26,594,346	47,753,728	104,743,048	56,980,920
1904.....	639	38,617	34,250	80,905,907	21,373,049	33,277,702	79,811,415	46,533,718
1890.....	630	24,981	23,288	51,054,804	13,383,392	10,403,551	40,605,232	27,261,761
1889 <sup>1</sup> .....	674	18,006	11,768	28,650,480	11,648,648	14,430,103	36,868,169	22,432,006
1879.....	420	11,350	(?)	14,446,705	7,098,794	8,361,227	10,264,730	10,803,512
1869.....	337	7,167	2,018	9,554,761	5,107,291	4,834,552	13,905,908	9,071,356
1859.....	248	4,758	(?)	4,622,600	2,529,788	2,325,200	6,967,718	4,642,509
1849.....	204	2,331	(?)	1,545,935	1,057,728	698,167	2,590,715	1,882,548

<sup>1</sup> Exclusive of 2 establishments manufacturing phonographs and graphophones (1 in Connecticut and 1 in New York).

<sup>2</sup> Figures not available.

## PIANOS AND ORGANS AND MATERIALS.

### GENERAL STATISTICS.

**General character of the industry.**—This section covers the manufacture of pianos, organs, and piano and organ materials. The piano branch of the industry includes establishments making chiefly upright and grand pianos, with or without player attachments; the organ branch includes establishments whose chief products are pipe and reed organs and orchestrions; and the branch manufacturing materials includes those establishments making primarily piano actions, back frames, cases, hammers, keys, keyboards, pedal attachments, plates and strings, organ reeds, pipes, stops, etc., perforated music rolls, sounding boards, and piano and organ hardware.

**Importance and growth of the industry.**—Table 2 summarizes the more important figures relative to the combined industry and to each of the three branches for the census years 1904 to 1919, inclusive, giving the percentages of increase or decrease.

In the industry as a whole, increases are noticeable for the five-year period 1914-1919, except for persons engaged in the industry, each class of which showed a decrease. The relatively large increases, however, in salaries and wages, cost of materials, and value of products are due largely to a general rise in prices and wages following the World War, and do not therefore fairly measure the growth of the industry. The increase in primary horsepower is a truer index of actual conditions. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes." Contract work, or work performed by employees other than those in the plants reporting, has little significance since it represents merely the methods of manufacture used by establishments, which vary from year to year. The piano branch of the industry, the value of products of which formed, in 1919, 71.5 per cent of the total, as compared with 70.6 per cent in 1914, 74.1 per cent in 1909, and 71 per cent in 1904, kept pace with the general increase shown by the industry as a whole. Organs, however, showed a consistent decrease, due probably to the increasing popularity of the phonograph. In 1919 organs formed 4 per cent of the total value of products of the industry, as against 7.1 per cent in 1914, 5.3 per cent in 1909, and 9.1 per cent in 1904. The third branch of the industry, piano and organ materials, showed increases in every item except number of establishments and contract work. A segregation of the detail for this branch is shown in Table 3, giving

statistics for those establishments making piano materials and for those manufacturing organ materials.

**States, ranked by value of products.**—New York, as shown by Table 4, which presents data for the industry as a whole, is the leading state in production of pianos and organs, followed by Illinois; these two states held the same position in the census of 1914. Although 25 states reported establishments in this industry, 8 states—New York, Illinois, Massachusetts, Connecticut, Indiana, Ohio, Michigan, and New Jersey in the order named—reported 89.9 per cent of the total value of products and employed 89.4 per cent of the total number of wage earners.

**Persons engaged in the industry.**—Table 5 shows for 1919, 1914, and 1909 for the industry combined and for its three branches separately the number of persons engaged, distributed by sex, and the average number of wage earners, distributed also by age. The classification by sex for 1919 was reported separately, but for 1914 and 1909 was obtained in the same manner as the distribution by age, the age classification being an estimate obtained by the method described in the "Explanation of terms." Figures for states will be found in Table 17.

**Wage earners, by months.**—The statistics for wage earners in Table 6 show the regularity of employment, or the reverse, in accordance with the existing industrial conditions during the census year. The table presents statistics for the combined industry, also for each branch separately. Figures for the principal states are shown where possible, while for the United States the number of males and females is also shown. The number of wage earners employed in the industry as a whole ranged from a maximum of 38,426 in August to a minimum of 32,458 in January, the minimum number being equivalent to 84.5 per cent of the maximum.

**Prevailing hours of labor.**—Table 7 shows a marked shortening of the working day for the industry since 1914. In that year only 18.7 per cent of the total wage earners of the industry as a whole were reported as employed fewer than 54 hours per week as against 75.3 per cent in 1919. In 1914 the "60" and "Over 60" groups constituted 10.9 per cent of the total, as compared with 2.8 per cent in 1919. In the piano industry 82.2 per cent of the wage earners worked fewer than 54 hours per week in 1919, as against 17.9 per cent in 1914. The organ industry in 1919 showed 46.4 per cent of its wage earners working 54

## MANUFACTURES.

hours or less, as against 9.8 per cent in 1914. The material branch of the industry showed 66 per cent of its wage earners working fewer than 54 hours per week in 1919, as against 23 per cent in 1914. In the groups "60" and "Over 60" the percentages of wage earners for the three branches were, pianos, 2.1 per cent; organs, 16.5 per cent; and materials, 1.8 per cent in 1919, compared with 9.4 per cent, 30.5 per cent, and 8.6 per cent, respectively, in 1914.

**Size of establishments, by average number of wage earners.**—Analysis of Table 8 discloses the significant fact that, in 1919, 66 establishments, or 17.7 per cent of the total number for the industry, employed fewer than 6 wage earners each, while only 152, or two-fifths of 1 per cent of the total number of wage earners, were employed therein, evidencing the predominance of the small establishments based on the average number of wage earners. On the other hand, the classes "501 to 1,000" and "Over 1,000" wage earners, comprising only 10 establishments, employed 6,498 wage earners, or 18.1 per cent of the total average number, illustrating the extent of manufacturing operations in a few large establishments.

The conditions cited above were reflected in the piano branch of the industry, wherein the 7 largest establishments employed 4,899, or 21.3 per cent of the total number of wage earners reported for this branch. Thirteen establishments employed fewer than 6 wage earners each, 34 persons, or less than one-fifth of 1 per cent, being employed therein. A good proportion of the establishments in the organ branch were small ones, 28 of which employed only 62 wage earners altogether; 11 establishments, classified in the groups "51 to 100" and "101 to 250," employed 1,127, or 58.1 per cent of the total. Approximately the same conditions prevailed in the establishments making materials, 25 establishments, employing fewer than 6 wage earners each, reported only 56 persons employed, this number being one-half of 1 per cent of the total number of wage earners. There were no establishments reporting over 1,000 wage earners, but the

classes "251 to 500" and "501 to 1,000" embraced 16 factories employing 6,376, or 57.9 per cent of the total.

**Size of establishments, by value of products.**—At the censuses of 1909 and 1914, establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into groups of "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been compiled, however, from the returns of 1914. Table 9, therefore, gives combined figures for these two groups in the case of all items for 1909, and in the case of the average number of wage earners and value added by manufacture for 1914. The statistics in the table are presented only for the industry as a whole, and bring out the degree of concentration of production in large establishments. In the two highest groups, 102 establishments, or 27.4 per cent of the total number for the industry, employed 26,601 wage earners, or 74.1 per cent of the total average number, and reported products to the value of \$111,405,568, or 74.3 per cent of the total value.

**Character of ownership.**—Table 10 emphasizes the predominance of the corporate form of ownership. Corporations owned 75.5 per cent of the number of establishments in 1919, employed 94.8 per cent of the wage earners, and reported 95 per cent of the total value of products.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 11, there was an increase in total horsepower for the combined industry of 7.8 per cent. The organ branch of the industry showed a decrease in proportion of owned power used, from 54.3 per cent in 1914 to 47.6 per cent in 1919.

**Fuel consumed.**—Table 12 shows the principal kinds of fuel used for the industry in 1919 and 1914 and also gives separately the amount consumed in the states requiring considerable quantities of fuel for manufacturing purposes. Of the fuel consumed, New York reported 59.4 per cent of the total amount of anthracite in 1919, Illinois, 37.7 per cent of the bituminous coal, and Ohio, 35.7 per cent of the gas.

# PIANOS AND ORGANS AND MATERIALS.

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TABLE 2.—PIANOS, ORGANS, AND MATERIALS—COMPARATIVE SUMMARY: 1919, 1914, 1909, AND 1904.

	1919	1914	1909	1904	PER CENT OF INCREASE. <sup>1</sup>		
					1914-1910	1909-1914	1904-1909
<b>PIANOS AND ORGANS AND MATERIALS.</b>							
Number of establishments.....	372	478	507	444	-22.2	-5.7	14.2
Persons engaged.....	39,931	41,723	41,882	30,106	-4.3	-0.4	16.0
Proprietors and firm members.....	127	221	207	308	-42.5	-25.6	-2.0
Salaried employees.....	3,397	3,946	3,565	2,722	-1.2	10.7	31.0
Wage earners (average number).....	35,007	37,555	38,020	38,081	-4.4	-1.2	14.0
Primary horsepower.....	47,804	44,849	41,623	30,134	7.8	6.5	38.1
Capital.....	\$155,200,702	\$130,989,794	\$103,234,301	\$68,481,910	18.5	26.9	50.7
Salaries and wages.....	46,883,617	29,835,276	28,313,754	22,255,008	57.1	5.4	27.2
Salaries.....	8,963,732	6,482,625	5,552,185	3,727,930	38.8	16.8	48.9
Wages.....	37,919,855	23,352,651	22,761,568	18,527,078	62.4	2.6	22.9
Paid for contract work.....	60,618	310,198	292,907	340,880	-77.6	5.9	-14.1
Rent and taxes (including internal revenue).....	4,655,530	1,772,396	1,831,324	2,675,430	179.6	33.1	.....
Cost of materials.....	73,274,863	41,252,791	43,704,737	27,980,627	77.6	-5.7	56.4
Value of products.....	149,850,945	88,948,145	89,780,544	60,092,030	68.5	-0.9	35.8
Value added by manufacture <sup>2</sup> .....	70,576,052	47,695,354	40,024,807	38,100,003	60.6	3.6	20.8
<b>PIANOS.</b>							
Number of establishments.....	191	255	294	249	-25.1	-13.3	18.1
Persons engaged.....	25,760	20,828	28,415	23,207	-4.0	-5.6	22.4
Proprietors and firm members.....	33	85	126	137	.....	-32.5	-8.0
Salaried employees.....	2,770	2,866	2,792	2,068	-3.3	2.7	35.0
Wage earners (average number).....	22,987	23,877	25,497	21,002	-3.0	-6.4	21.4
Primary horsepower.....	28,732	25,081	23,246	17,467	10.6	11.8	33.1
Capital.....	\$116,106,586	\$101,746,424	\$81,544,094	\$49,649,135	14.1	24.8	64.2
Salaries and wages.....	31,871,800	20,414,519	20,102,875	15,016,936	56.1	1.1	34.5
Salaries.....	6,397,666	4,709,840	4,465,598	2,846,685	35.8	5.7	56.5
Wages.....	25,474,200	15,704,679	15,737,277	12,170,251	62.2	-0.2	29.3
Paid for contract work.....	27,640	276,470	217,604	294,189	-90.0	27.1	-26.0
Rent and taxes (including internal revenue).....	3,620,088	1,292,676	1,003,707	2,602,208	180.0	21.5	.....
Cost of materials.....	54,864,650	29,001,045	32,818,770	19,587,770	86.9	-11.4	67.5
Value of products.....	107,088,050	62,776,035	66,569,273	46,922,471	70.6	-5.7	41.9
Value added by manufacture <sup>2</sup> .....	52,723,394	33,683,990	33,750,503	27,334,701	56.5	-0.2	23.5
<b>ORGANS.</b>							
Number of establishments.....	68	85	86	94	.....	.....	.....
Persons engaged.....	2,285	3,518	2,764	4,083	-35.0	27.7	-31.7
Proprietors and firm members.....	60	74	83	87	.....	22.3	.....
Salaried employees.....	288	381	288	323	-24.4	22.3	-10.8
Wage earners (average number).....	1,941	3,063	2,333	3,623	-30.6	28.5	-34.2
Primary horsepower.....	3,251	3,696	3,394	4,085	-11.3	10.0	-18.4
Capital.....	\$6,770,587	\$8,042,405	\$4,553,000	\$7,203,878	-15.8	70.6	-30.8
Salaries and wages.....	2,502,100	2,617,194	1,777,649	2,406,921	-0.6	41.6	-26.1
Salaries.....	523,672	523,779	349,008	372,362	(*)	50.1	-5.3
Wages.....	1,978,518	1,093,415	1,428,641	2,084,550	-0.7	38.5	-20.8
Paid for contract work.....	20,806	12,444	36,950	18,038	115.4	-66.3	104.9
Rent and taxes (including internal revenue).....	118,443	68,031	52,283	2,75,339	74.1	30.2	.....
Cost of materials.....	2,217,097	2,659,930	1,722,923	2,068,638	-16.6	54.4	-16.7
Value of products.....	5,973,208	6,297,348	4,745,555	6,041,344	-5.1	32.7	-21.5
Value added by manufacture <sup>2</sup> .....	3,750,171	3,637,308	3,022,732	3,973,206	3.3	20.3	-23.0
<b>PIANO AND ORGAN MATERIALS</b>							
Number of establishments .....	113	138	127	101	-18.1	8.7	25.7
Persons engaged.....	11,886	11,377	10,713	8,836	4.5	6.2	20.8
Proprietors and firm members.....	33	62	88	79	.....	.....	.....
Salaried employees.....	830	699	485	331	20.0	44.1	40.5
Wage earners (average number).....	11,009	10,610	10,140	8,456	3.7	4.7	19.0
Primary horsepower.....	15,821	14,702	15,043	8,582	7.6	-2.3	76.3
Capital.....	\$32,323,600	\$21,200,956	\$17,130,698	\$11,628,897	52.5	23.7	47.4
Salaries and wages.....	12,509,561	6,908,563	6,343,230	4,831,151	81.2	8.8	31.3
Salaries.....	2,042,424	1,249,008	747,680	508,888	63.5	67.1	46.9
Wages.....	10,467,137	5,654,557	5,595,650	4,322,268	85.1	1.1	29.5
Paid for contract work.....	15,172	21,284	33,344	28,553	-28.7	-44.5	33.8
Rent and taxes (including internal revenue).....	1,210,899	411,689	215,340	1,137,823	195.6	91.2	.....
Cost of materials.....	16,693,140	9,501,766	9,223,044	6,380,219	75.7	3.0	45.7
Value of products.....	36,789,627	19,875,762	18,474,616	13,128,315	85.1	7.6	40.7
Value added by manufacture <sup>2</sup> .....	20,096,487	10,378,996	9,251,672	6,798,096	93.7	12.1	36.1

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

<sup>2</sup> Exclusive of internal revenue.

<sup>1</sup> Value of products less cost of materials

<sup>2</sup> Less than one-tenth of 1 per cent.

TABLE 3.—PIANO MATERIALS AND ORGAN MATERIALS—SUMMARY: 1919.

	Total.	ESTABLISHMENTS MANUFACTURING PRINCIPALLY—			Total.	ESTABLISHMENTS MANUFACTURING PRINCIPALLY—	
		PIano materials.	Organ materials.			PIano materials.	Organ materials.
Number of establishments.....	113	97	16	Cost of materials.....	\$16,693,140	\$16,829,129	\$364,011
Wage earners.....	11,009	10,769	240	Value of products.....	36,789,627	35,956,944	832,683
Capital.....	\$32,323,689	\$31,769,045	\$554,624	Value added by manufacture.....	20,096,487	19,627,815	468,672
Wages.....	10,467,137	10,231,122	236,015				

## MANUFACTURES.

TABLE 4.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.	872	35,907	100.0	...	\$149,851	100.0	...	\$76,576	100.0	...	Pennsylvania.....	23	972	2.7	9	\$3,798	2.5	9	\$1,641	2.1	9
New York.....	131	11,317	31.5	1	52,231	34.9	1	23,506	30.8	1	Maryland.....	7	720	2.0	10	2,670	1.8	11	1,824	2.1	10
Illinois.....	52	8,575	23.9	2	36,255	24.2	2	20,717	27.1	2	Vermont.....	3	444	1.2	12	1,423	0.9	13	823	1.1	12
Massachusetts.....	40	3,950	11.0	3	18,342	8.9	3	7,535	9.8	3	Minnesota.....	3	76	0.2	18	427	0.3	16	255	0.3	15
Ohio.....	22	1,820	5.1	5	6,707	4.5	6	3,043	4.8	6	California.....	5	94	0.3	15	321	0.2	17	171	0.2	16
Michigan.....	11	1,305	3.6	8	6,098	4.1	7	2,010	3.8	8	All other states.....	75	6,034	18.4	...	26,480	17.7	...	13,055	17.9	...

TABLE 5.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

INDUSTRY AND CLASS.	Cen-sus year.	Total.	Male.	Fe-male.	PER CENT OF TOTAL.		INDUSTRY AND CLASS.	Cen-sus year.	Total.	Male.	Fe-male.	PER CENT OF TOTAL.	
					Male.	Fe-male.						Male.	Fe-male.
<b>PIANOS AND ORGANS AND MATERIALS.</b>													
All classes.....	1919	39,031	33,678	6,253	84.3	15.7	ORGANS.	1919	2,285	1,978	307	80.6	13.4
	1914	41,723	38,115	3,608	91.4	8.6	All classes.....	1914	3,518	3,233	285	91.0	8.1
	1909	41,882	39,005	2,877	93.1	6.9		1900	2,754	2,592	162	94.1	5.9
Proprietors and officials.....	1919	1,412	1,347	65	95.4	4.6	Proprietors and officials.....	1919	177	170	7	96.0	4.0
	1914	1,357	1,317	40	97.1	2.9		1914	198	194	4	98.0	2.0
	1909	1,378	1,340	38	97.2	2.8		1909	175	168	7	98.0	4.0
Proprietors and firm members.....	1910	127	121	6	95.3	4.7	Proprietors and firm members.....	1919	56	56	...	100.0	...
	1914	221	217	4	98.2	1.8		1914	74	72	2	97.3	2.7
	1900	297	285	12	96.0	4.0		1909	83	78	5	94.0	6.0
Salaried officers of corporations.....	1910	595	556	39	93.4	6.6	Salaried officers of corporations.....	1919	60	54	6	90.0	10.0
	1914	613	682	31	94.9	5.1		1914	61	59	2	98.7	3.3
	1909	646	524	22	96.0	4.0		1909	42	40	2	95.2	4.8
Superintendents and managers.....	1910	690	670	20	97.1	2.9	Superintendents and managers.....	1919	61	60	1	98.4	1.6
	1914	523	513	5	99.0	1.0		1914	63	63	...	100.0	...
	1909	585	531	4	99.3	0.7		1909	50	50	...	100.0	...
Clerks and other subordinate salaried employees.....	1910	2,612	1,482	1,130	56.7	43.3	Clerks and other subordinate salaried employees.....	1910	167	84	83	50.3	49.7
	1914	2,810	1,325	985	64.9	35.1		1914	257	181	120	51.0	49.0
	1909	2,484	1,788	696	72.0	28.0		1909	106	127	69	64.8	35.2
Wage earners (average number).....	1910	35,907	30,849	5,058	85.9	14.1	Wage earners (average number).....	1919	1,941	1,724	217	88.8	11.2
	1914	37,558	34,973	2,583	93.1	6.9		1914	3,068	2,908	155	94.9	5.1
	1909	38,200	35,877	2,143	94.4	5.6		1909	2,883	2,297	86	96.4	3.6
16 years of age and over.....	1910	35,310	30,416	4,894	86.1	13.9	16 years of age and over.....	1919	1,899	1,687	212	88.8	11.2
	1914	37,108	34,645	2,558	93.1	6.9		1914	3,045	2,892	153	95.0	5.0
	1909	37,316	35,840	1,976	94.7	5.3		1909	2,366	2,280	86	96.4	3.6
Under 16 years of age.....	1910	597	433	104	72.5	27.5	Under 16 years of age.....	1919	42	37	5	88.1	11.0
	1914	358	328	30	91.6	8.4		1914	18	16	2	88.9	11.1
	1909	704	537	167	76.3	23.7		1909	17	17	...	100.0	...
<b>PIANOS.</b>													
All classes.....	1910	25,760	22,051	2,809	89.1	10.9	PIANO AND ORGAN MATERIALS.	1910	11,886	8,749	3,137	73.6	26.4
	1914	26,828	25,320	1,508	94.4	5.6	All classes.....	1914	11,377	9,582	1,815	84.0	16.0
	1909	28,415	27,322	1,193	95.8	4.2		1900	10,713	9,191	1,522	85.8	14.2
Proprietors and officials.....	1910	836	805	31	96.3	3.7	Proprietors and officials.....	1910	390	372	27	93.2	6.8
	1914	705	775	20	97.5	2.5		1914	364	348	16	95.6	4.4
	1909	907	886	21	97.7	2.3		1909	296	286	10	96.6	3.4
Proprietors and firm members.....	1910	33	30	3	90.9	9.1	Proprietors and firm members.....	1910	38	35	3	92.1	7.9
	1914	85	84	1	98.8	1.2		1914	62	61	1	98.4	1.6
	1909	126	121	5	98.0	4.0		1909	88	86	2	97.7	2.3
Salaried officers of corporations.....	1910	382	362	20	94.8	5.2	Salaried officers of corporations.....	1910	163	140	13	91.6	8.5
	1914	397	370	18	95.5	4.5		1914	155	144	11	92.9	7.1
	1909	397	385	12	97.0	3.0		1909	107	99	8	92.5	7.5
Superintendents and managers.....	1910	421	413	8	98.1	1.9	Superintendents and managers.....	1910	208	197	11	94.7	5.3
	1914	313	312	1	99.7	0.3		1914	147	143	4	97.3	2.7
	1909	384	380	4	99.0	1.0		1909	101	101	...	100.0	...
Clerks and other subordinate salaried employees.....	1910	1,967	1,168	799	59.4	40.6	Clerks and other subordinate salaried employees.....	1910	478	230	248	48.1	51.9
	1914	2,156	1,440	707	67.2	32.8		1914	397	245	152	61.7	38.3
	1909	2,011	1,483	828	73.7	26.3		1909	277	178	99	64.3	35.7
Wage earners (average number).....	1910	22,957	20,078	1,979	91.4	8.6	Wage earners (average number).....	1910	11,009	8,147	2,802	74.0	26.0
	1914	23,877	23,096	781	96.7	3.3		1914	10,616	8,099	1,633	84.4	16.6
	1909	25,146	24,530	618	97.6	2.4		1909	10,140	8,727	1,413	86.1	13.9
16 years of age and over.....	1910	22,613	20,709	1,904	91.6	8.4	16 years of age and over.....	1910	10,799	8,020	2,770	74.3	25.7
	1914	23,674	22,907	767	90.8	3.2		1914	10,479	8,846	1,633	84.4	16.6
	1909	25,146	24,530	618	97.6	2.4		1909	9,804	8,530	1,274	87.0	13.0
Under 16 years of age.....	1910	344	269	75	78.2	21.8	Under 16 years of age.....	1910	210	127	83	60.5	39.5
	1914	203	180	14	93.1	6.9		1914	137	123	14	89.8	10.2
	1909	351	323	28	92.0	8.0		1909	336	197	130	58.6	41.4

# PIANOS AND ORGANS AND MATERIALS.

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TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by **bold-faced** figures and that of minimum employment by *italic* figures.]

INDUSTRY AND STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.											Per cent minimum is of maximum.	
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
<b>PIANOS AND ORGANS AND MATERIALS.</b>														
United States:														
1919.....	35,907	<b>32,458</b>	33,952	35,138	36,175	36,386	36,950	38,018	38,426	38,361	34,134	34,550	36,330	84.5
Males.....	30,849	<i>28,069</i>	29,279	30,318	31,273	31,404	31,906	32,756	33,134	33,192	28,951	29,041	30,800	84.0
Females.....	5,058	<i>4,389</i>	4,073	4,820	4,897	4,982	4,984	5,202	5,109	5,183	5,515	5,580	79.4	
1914.....	37,555	39,902	40,150	40,442	39,902	38,715	37,300	35,350	35,176	35,698	35,049	35,845	36,057	87.0
1909.....	38,020	36,900	37,241	37,630	37,679	37,696	37,455	38,289	37,238	38,522	39,752	39,978	40,011	90.0
Illinois.....	8,575	<b>7,873</b>	8,050	8,290	8,444	8,482	8,511	8,653	8,707	8,783	9,045	9,007	8,905	87.0
Maryland.....	720	<i>677</i>	601	710	704	721	724	727	740	733	747	744	90.0	
Massachusetts.....	3,950	<b>3,584</b>	3,484	3,685	3,823	3,951	3,956	4,072	4,098	4,172	4,218	4,292	4,315	77.3
Michigan.....	1,305	<i>1,147</i>	1,141	1,130	1,154	1,192	1,144	1,335	1,420	1,421	1,483	1,548	1,504	71.0
New York.....	11,317	10,808	11,384	11,042	12,351	12,285	12,525	12,005	13,005	12,902	7,072	8,084	9,471	61.3
Ohio.....	1,820	<i>1,409</i>	1,553	1,568	1,678	1,730	1,820	1,955	1,957	1,915	2,023	2,069	2,152	65.5
Pennsylvania.....	972	<i>924</i>	927	942	947	952	957	983	994	1,000	1,011	1,018	90.8	
<b>PIANOS.</b>														
United States:														
1919.....	22,957	<b>21,585</b>	22,224	22,882	23,363	23,461	23,964	24,202	24,508	24,719	20,902	21,201	22,483	84.6
Males.....	20,978	19,687	20,310	20,663	21,401	21,483	21,990	22,244	22,533	22,767	18,298	19,029	20,322	83.4
Females.....	1,079	<i>1,898</i>	1,905	1,019	1,962	1,978	1,964	1,958	1,975	1,952	1,904	2,172	2,161	87.4
1914.....	23,877	25,168	25,221	25,372	25,276	24,505	23,752	22,497	22,393	22,915	23,130	23,091	23,144	88.3
1909.....	25,497	24,677	24,914	25,194	25,232	25,316	25,037	24,256	24,925	25,873	26,680	26,021	26,952	90.0
Connecticut.....	608	<i>544</i>	545	584	610	605	605	593	601	628	651	683	656	70.6
Illinois.....	6,991	<i>6,417</i>	6,530	6,730	6,802	6,893	6,946	6,988	7,122	7,222	7,439	7,377	7,308	86.3
Indiana.....	1,432	<i>1,160</i>	1,184	1,197	1,246	1,318	1,425	1,511	1,554	1,554	1,578	1,672	1,783	65.1
Maryland.....	523	<i>480</i>	494	513	507	524	525	527	530	543	551	546	87.1	
Massachusetts.....	2,228	<b>1,885</b>	1,952	2,000	2,107	2,276	2,283	2,338	2,301	2,342	2,349	2,389	2,394	78.7
Michigan.....	1,122	1,065	1,055	1,048	1,033	1,038	1,051	1,066	1,136	1,174	1,212	1,268	1,288	80.6
New Jersey.....	713	<i>689</i>	725	794	800	788	826	727	704	657	652	544	641	65.9
New York.....	6,008	7,229	7,510	7,734	7,817	7,707	7,924	7,994	8,048	8,050	8,822	4,021	5,040	47.5
Ohio.....	787	<i>696</i>	645	635	683	683	703	835	885	877	936	948	979	60.8
Pennsylvania.....	774	<i>747</i>	753	757	758	764	761	784	788	790	795	797	794	63.7
<b>ORGANS.</b>														
United States:														
1919.....	1,941	<b>1,770</b>	1,814	1,854	1,909	1,941	1,951	2,000	1,061	1,087	2,005	2,039	2,111	83.8
Males.....	1,724	<i>1,687</i>	1,616	1,651	1,695	1,716	1,722	1,770	1,747	1,723	1,776	1,808	1,877	84.5
Females.....	217	<i>189</i>	193	203	214	225	229	230	214	214	229	231	234	78.2
1914.....	3,063	3,191	3,217	3,231	3,194	3,115	3,103	3,077	2,994	2,918	2,920	2,866	2,030	88.7
1909.....	2,333	2,400	2,391	2,361	2,365	2,394	2,388	2,379	2,356	2,358	2,383	2,418	2,460	95.0
<b>PIANO AND ORGAN MATERIALS.</b>														
United States:														
1919.....	11,009	<b>9,103</b>	9,914	10,402	10,903	10,984	11,045	11,816	11,057	11,705	11,227	11,310	11,738	76.1
Males.....	8,147	<i>6,795</i>	7,344	7,704	8,182	8,205	8,254	8,742	8,854	8,702	8,177	8,204	8,601	76.7
Females.....	2,862	<i>2,503</i>	2,570	2,698	2,721	2,779	2,701	3,074	3,103	3,003	3,050	3,112	3,135	73.6
1914.....	10,616	11,633	11,712	11,839	11,522	11,035	10,451	9,776	9,789	9,805	9,899	9,888	9,983	82.6
1909.....	10,140	<i>9,823</i>	9,936	9,975	10,082	9,980	10,080	9,634	9,987	10,291	10,639	10,599	91.9	
Connecticut.....	1,291	<i>984</i>	1,092	1,155	1,211	1,230	1,295	1,381	1,389	1,382	1,434	1,472	1,487	66.2
Illinois.....	1,311	<i>1,214</i>	1,275	1,308	1,318	1,315	1,279	1,374	1,391	1,278	1,325	1,347	1,308	87.3
Massachusetts.....	1,581	<i>1,321</i>	1,403	1,489	1,515	1,534	1,539	1,594	1,663	1,686	1,717	1,755	1,766	74.8
New Jersey.....	758	<i>684</i>	756	768	750	731	745	701	787	785	760	805	85.0	
New York.....	4,141	<i>3,496</i>	3,753	3,979	4,308	4,324	4,342	4,016	4,069	4,549	3,863	3,766	4,107	73.4
Ohio.....	980	<i>768</i>	868	888	966	1,000	1,007	1,066	1,016	982	1,034	1,032	1,113	69.0

## MANUFACTURES.

TABLE 7.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

INDUSTRY AND STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							INDUSTRY AND STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
		44 and under.	Between 44 and 48.	48.	Between 48 and 54.	54.	Between 54 and 60.	60.			44 and under.	Between 44 and 48.	48.	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
		PIANOS AND ORGANS AND MATERIALS.									PIANOS—continued.							
United States:									Michigan:									
1910.....	35,907	2,329	311	8,037	15,302	5,297	2,578	983	1919.....	1,122								
1914.....	37,556	(2)	(2)	1,754	5,269	19,951	6,498	3,814	1914.....	925								
1909.....	38,020	(2)	(2)	1,270	2,584	17,372	6,055	10,789	1919.....	713	28	162	525					
Illinois:									1914.....	852	(2)	(2)	847					
1919.....	8,575	1,627		548	5,170	687	448	95	Michigan:									
1914.....	8,334	(2)	(2)	318	1,768	3,814	1,804	630	1919.....	1,122								
Maryland:									1914.....	925								
1919.....	720		2	327	196	26	1	169	New Jersey:									
1914.....	773					297	242	234	1919.....	713	28	162	525					
Massachusetts:									1914.....	852	(2)	(2)	847					
1919.....	3,950	175		1,801	1,623	259	2	10	New Jersey:									
1914.....	3,906	(2)	(2)	244	641	2,876	135		1919.....	6,908	357	2,899	3,406	230	16			
Michigan:									1914.....	8,202	(2)	244	1,120	6,108	716	16		
1919.....	1,305			133	443	366	368		Ohio:									
1914.....	1,070				2	98	335	365	1919.....	787		403	158	212	14			
New York:									1914.....	707	(2)	(2)	96	257	117	98	144	
1919.....	11,317	456	62	3,887	5,588	667	572	105	Pennsylvania:									
1914.....	12,002	(2)	(2)	317	1,694	9,123	981	487	1919.....	774		610	64	90	10			
Ohio:									1914.....	646	(2)	(2)	25	60	295	101	165	
1919.....	1,820			871	346	540	19	44	ORGANS.									
1914.....	1,745	(2)	(2)	282	848	138	248	220	United States:									
Pennsylvania:									1919.....	1,941	11		239	651	214	500	320	
1919.....	972		39	649	94	125	38	27	1914.....	3,063	(2)	104	197	1,129	698	935		
1914.....	922	(2)	(2)	59	105	296	198	264	PIANO AND ORGAN MATERIALS.									
PIANOS.									United States:									
United States:									1919.....	11,000	152		2,361	4,648	2,835	717		
1919.....	22,057	2,186	208	6,437	10,063	2,248	1,355	480	1914.....	10,616	(2)	345	2,098	5,779	1,480	914		
1914.....	23,877	(2)	(2)	1,305	2,974	13,043	4,320	1,965	Connecticut:									
Connecticut:									1919.....	1,291			23		1,208			
1919.....	608	45		201	227		135		1914.....	1,544	(2)	(2)	4	49	1,430	44	8	
1914.....	599					273	826		Illinois:									
Illinois:									1919.....	1,311	60		156	930	77	108	88	
1919.....	6,991	1,567		834	4,190	539	381		1914.....	1,420	(2)	(2)	84	688	408	108	77	
1914.....	6,682	(2)	(2)	234	1,051	3,405	1,554	488	Massachusetts:									
Indiana:									1919.....	1,581			524	820	235	2		
1919.....	1,432		208		191	727	306		1914.....	1,349	(2)	(2)	1	140	1,163	35	10	
1914.....	1,585	(2)	(2)	319		34	598	636	New Jersey:									
Maryland:									1919.....	758			253	386	119			
1919.....	523			327	196		293	225	1914.....	777	(2)	(2)	60	37	167	312	211	
1914.....	518								New York:									
Massachusetts:									1919.....	4,141	92	62	792	2,141	409	540		
1919.....	2,228	171	(2)	1,367	690	448	1,567	97	1914.....	3,752	(2)	(2)	466	188	326	212	455	
1914.....	2,352	(2)	(2)	240					Ohio:									
									1919.....	980			980	591	132	7		
									1914.....	915	(2)	(2)	185	591				

<sup>1</sup> Includes 48 and under in 1914.<sup>2</sup> Corresponding figures not available.

# PIANOS AND ORGANS AND MATERIALS.

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TABLE 8.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

INDUSTRY AND STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
	Establishments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 wage earners.	
			Establish- ments.	Establish- ments.	Establish- ments.	Wage earners.	Establish- ments.	Establish- ments.	Establish- ments.	Establish- ments.	Establish- ments.	Wage earners.	Establish- ments.	Establish- ments.	Establish- ments.	Wage earners.	Establish- ments.	Establish- ments.	Establish- ments.	Wage earners.
<b>PIANOS AND ORGANS AND MATERIALS.</b>																				
United States..1919..	372	35,907	10	56	152	63	757	81	2,750	54	4,133	68	10,884	30	10,774	9	5,205	1	1,233	
1914..	478	37,550	11	93	234	100	1,259	92	3,193	70	5,723	68	11,119	32	11,206	5	3,338	1	1,304	
Illinois.....	52	8,575	2	3	11	4	48	10	377	9	662	14	2,052	5	1,725	4	2,467	1	1,233	
Maryland.....	7	720	2	6	3	7	68	6	212	2	47	2	343	1	327	1	.....	.....	.....	
Massachusetts.....	40	3,050	2	6	18	7	68	3	81	6	458	7	1,237	6	1,057	1	.....	.....	.....	
Michigan.....	11	1,305	1	.....	.....	.....	.....	3	81	3	262	3	596	1	380	1	.....	.....	.....	
New York.....	131	11,317	3	15	42	30	370	32	1,098	18	1,288	20	3,064	10	3,745	3	1,710	1	.....	
Ohio.....	22	1,820	6	17	2	24	3	89	4	322	8	901	1	467	1	.....	.....	.....		
Pennsylvania.....	23	972	10	25	4	58	6	190	1	89	1	141	1	469	1	.....	.....	.....		
<b>PIANOS.</b>																				
United States..1919..	101	22,957	2	11	34	25	312	47	1,537	33	2,512	40	7,066	17	6,000	6	3,663	1	1,233	
1914..	255	23,877	2	32	87	52	644	52	1,709	50	3,832	44	7,221	17	5,592	5	3,338	1	1,394	
Connecticut.....	5	608	.....	.....	.....	.....	.....	2	77	.....	.....	3	531	.....	.....	.....	.....	.....	.....	
Illinois.....	33	6,991	1	.....	.....	2	20	5	182	4	335	13	1,896	4	1,408	3	1,917	1	1,233	
Indiana.....	8	1,432	.....	.....	.....	.....	.....	1	33	2	132	4	692	1	327	1	575	1	.....	
Maryland.....	3	523	.....	.....	.....	1	22	.....	.....	3	243	4	686	4	1,265	1	.....	.....	.....	
Massachusetts.....	14	2,228	.....	.....	3	34	.....	.....	3	243	4	.....	.....	.....	.....	.....	.....	.....	.....	
Michigan.....	8	1,122	.....	.....	.....	3	81	1	70	3	506	1	266	1	.....	.....	.....	.....	.....	
New Jersey.....	6	713	1	1	4	14	184	1	26	1	100	1	158	1	425	1	.....	.....	.....	
New York.....	79	6,908	4	13	14	26	858	15	1,045	14	2,182	4	1,455	2	1,171	1	.....	.....	.....	
Ohio.....	10	787	1	14	1	14	2	58	4	322	3	393	1	141	1	489	1	.....	.....	
Pennsylvania.....	11	774	5	16	2	27	1	32	1	89	1	.....	.....	.....	.....	.....	.....	.....	.....	
<b>ORGANS.</b>																				
United States..1919..	68	1,941	4	24	62	11	122	18	630	8	580	3	547	.....	.....	.....	.....	.....	.....	
1914..	85	3,083	2	33	71	17	229	17	594	10	684	4	740	2	739	1	.....	.....	.....	
<b>PIANO AND ORGAN MATERIALS.</b>																				
United States..1919..	113	11,009	4	21	56	27	323	16	592	13	1,041	16	2,821	13	4,774	3	1,602	1	.....	
1914..	138	10,016	7	28	76	31	386	23	830	16	1,207	20	3,152	13	4,965	1	.....	.....	.....	
Connecticut.....	6	1,291	1	5	2	23	.....	.....	.....	.....	.....	2	750	1	513	1	.....	.....	.....	
Illinois.....	9	1,311	.....	.....	2	28	1	45	3	215	1	156	1	317	1	560	1	.....	.....	
Massachusetts.....	21	1,681	2	4	10	4	34	4	143	2	151	3	551	2	692	1	.....	.....	.....	
New Jersey.....	11	758	1	3	3	48	2	75	2	160	3	472	1	.....	.....	539	1	.....	.....	
New York.....	36	4,141	6	18	11	130	4	170	3	243	5	751	6	2,290	1	539	1	.....	.....	
Ohio.....	6	980	2	5	.....	.....	.....	.....	.....	.....	3	508	1	407	1	.....	.....	.....		

## MANUFACTURES.

TABLE 9.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
	372	478	507	35,907	37,556	38,020	\$149,850,945	\$88,948,145	\$89,789,544	\$76,576,052	\$47,695,354	\$46,024,807
All classes.....	372	478	507	35,907	37,556	38,020	\$149,850,945	\$88,948,145	\$89,789,544	\$76,576,052	\$47,695,354	\$46,024,807
Less than \$5,000.....	18	47	53	12	54	86	48,287	121,034	168,073	29,608	80,923	110,908
\$5,000 to \$20,000.....	40	73	85	179	397	436	546,366	766,881	900,017	341,274	457,220	559,824
\$20,000 to \$100,000.....	74	145	166	1,207	3,572	3,907	4,023,635	8,035,328	8,952,604	2,363,335	4,161,844	4,794,745
\$100,000 to \$500,000.....	129	172	193	7,908	{ 10,925 } 20,947	27,551	{ 33,827,089 } 42,809,542	{ 20,692,404 } 63,736,264	{ 16,273,549 } 16,031,686	{ 22,134,527 } 35,443,759	{ 33,088,250 } 9,912,108	{ 32,049,304 } 8,510,026
\$500,000 to \$1,000,000.....	64	30	10	15,676	6,586	6,041	{ 44,169,833 } 67,245,735	{ 20,692,404 } 16,522,956	{ 16,031,686 } 35,443,759	{ 22,134,527 } 9,912,108	{ 33,088,250 } 8,510,026	{ 32,049,304 } 8,510,026
\$1,000,000 and over.....	38	11	10									
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	4.8	9.8	10.5	( <sup>1</sup> )	0.1	0.2	( <sup>1</sup> )	0.1	0.2	( <sup>1</sup> )	0.2	0.2
\$5,000 to \$20,000.....	13.2	15.3	16.8	0.5	1.1	1.1	0.4	0.9	1.0	0.4	1.0	1.2
\$20,000 to \$100,000.....	19.9	30.3	32.7	3.4	9.5	10.3	2.7	9.0	10.0	3.1	8.7	10.4
\$100,000 to \$500,000.....	34.7	36.0	38.1	{ 22.0 } 22.0	71.8	72.5	{ 22.6 } 22.6	48.1	71.0	{ 21.2 } 21.2	69.4	69.6
\$500,000 to \$1,000,000.....	17.2	6.3	38.1	{ 30.4 } 30.4	17.5	15.9	{ 29.5 } 29.5	23.3	17.9	{ 28.9 } 28.9	46.3	20.8
\$1,000,000 and over.....	10.2	2.3	2.0	43.7			44.9	18.6				

<sup>1</sup> Less than one-tenth of 1 per cent.

TABLE 10.—CHARACTER OF OWNERSHIP, BY STATES: 1919 AND 1914.

STATE.	Census year.	NUMBER OF ESTABLISHMENTS OWNED BY—	AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.										
			In establishments owned by—			Per cent of total.			Total.			Of establishments owned by—			Per cent of total.				
			Total.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	
			Individ-uals.	Cor-por-a-tions.	All oth-ers.		Individ-uals.	Cor-por-a-tions.	All oth-ers.	Individ-uals.	Cor-por-a-tions.	All oth-ers.	Individ-uals.	Cor-por-a-tions.	All oth-ers.	Individ-uals.	Cor-por-a-tions.	All oth-ers.	
United States.....	1910	64	281	27	35,907	792	34,045	1,070	2.2	94.8	3.0	\$149,850,945	\$3,218,328	\$142,375,308	\$4,257,309	2.1	95.0	2.8	
	1914	105	322	51	37,556	1,727	34,722	1,107	4.6	92.5	2.9	88,948,145	4,621,448	81,651,530	2,675,167	5.2	91.8	3.0	
	1909	125	314	68	38,020	2,761	32,722	2,547	7.2	86.1	6.7	89,789,544	7,923,369	76,965,102	4,900,983	8.8	85.7	5.5	
Illinois.....	1910	7	44	1	8,575	119	1,8456	.....	1.4	98.6	.....	36,255,055	377,591	1,35,877,464	.....	1.0	99.0	.....	
	1914	11	55	5	8,334	85	8,215	34	1.0	98.6	0.4	19,705,601	190,768	19,354,624	180,209	1.0	98.2	0.8	
Massachusetts.....	1910	10	27	3	3,050	37	3,103	810	0.9	78.6	20.5	13,342,488	111,895	10,076,519	3,154,974	0.8	75.5	23.6	
	1914	14	34	4	3,908	190	3,378	338	4.9	86.6	8.7	8,213,341	418,137	6,872,022	923,182	5.1	83.7	11.2	
Michigan.....	1910	1	10	10	1,305	1,070	1,82	988	.....	7.7	92.3	.....	6,097,874	2,681,855	1,140,705	2,541,090	.....	100.0	.....
	1914	4	12	1	1,070	1,070	1,82	988	.....	7.7	92.3	.....	1,140,705	2,541,090	1,140,705	2,541,090	5.2	94.8	.....
New York.....	1910	16	105	10	11,317	305	10,933	79	2.7	98.6	0.7	52,231,101	1,499,818	50,424,285	306,998	2.9	96.5	0.6	
	1914	25	114	21	12,602	629	11,653	320	5.0	92.5	2.5	33,071,781	2,398,702	29,907,739	770,340	7.2	90.4	2.3	
Ohio.....	1910	3	16	3	1,820	5	1,776	39	0.3	97.0	2.1	6,797,129	29,978	6,000,020	161,131	0.4	97.2	2.4	
	1914	6	15	6	1,745	23	1,636	86	1.3	93.8	4.9	3,544,688	61,528	3,276,414	206,744	1.7	92.4	5.8	
Pennsylvania.....	1910	7	12	4	972	41	923	8	4.2	95.0	0.8	3,798,015	283,407	8,500,828	27,780	0.9	92.3	0.7	
	1914	10	13	5	922	95	778	49	10.3	84.4	5.3	2,083,727	192,354	1,734,050	157,317	9.2	83.2	7.5	

<sup>1</sup> Includes the group "All others."<sup>2</sup> Includes the group "Individuals."

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TABLE 11.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

INDUSTRY AND POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
<b>PIANOS AND ORGANS AND MATERIALS.</b>									
Primary power, total.....	3,076	2,079	1,147	47,804	44,349	41,623	100.0	100.0	100.0
Owned.....				32,628	35,027	35,702	68.3	79.0	85.8
Steam <sup>1</sup> .....	257	321	393	30,912	32,702	33,314	64.7	74.0	80.0
Engines.....	218	263	302	30,050	(2)	(2)	32.9	(1)	(2)
Turbines.....	191	(2)	(2)	862	(2)	(2)	1.8	(1)	(2)
Internal-combustion engines.....	27	39	55	1,280	1,592	1,282	2.7	3.6	3.1
Water wheels, turbines, and motors.....	25	19	36	436	643	1,106	0.9	1.4	2.7
Rented.....	14								
Electric.....	2,819	1,758	754	15,176	9,322	5,921	31.7	21.0	14.2
Other.....	2,819	1,758	754	15,030	9,046	5,385	31.4	20.4	12.9
146				270		506	0.3	0.6	1.4
Electric.....	8,208	3,170	1,862	28,706	21,492	13,256	100.0	100.0	100.0
Rented.....	2,819	1,758	754	15,030	9,046	5,385	52.2	42.1	40.4
Generated by establishments reporting.....	5,389	1,412	908	13,736	12,446	7,901	47.8	57.0	59.6
<b>PIANOS.</b>									
Primary power, total.....	1,761	982	553	28,732	25,981	23,246	100.0	100.0	100.0
Owned.....				20,545	21,491	20,702	71.5	82.7	88.1
Steam <sup>1</sup> .....	154	178	192	19,822	20,636	19,897	69.0	79.4	86.6
Engines.....	147	163	166	19,015	(2)	(2)	66.2	(2)	(2)
Turbines.....	122	(2)	(2)	807	(2)	(2)	2.8	(2)	(2)
Internal-combustion engines.....	25	(2)	(2)	623	710	561	2.2	2.7	2.4
Water wheels, turbines, and motors.....	0	10	16	100	145	244	0.3	0.6	1.1
Rented.....	1	5	10						
Electric.....	1,607	784	361	8,187	4,490	2,544	28.5	17.3	10.9
Other.....	1,607	784	361	8,152	4,347	2,256	28.4	16.7	9.7
35				143		288	0.1	0.6	1.2
Electric.....	2,656	1,882	1,053	17,270	12,689	7,345	100.0	100.0	100.0
Rented.....	1,607	784	361	8,152	4,347	2,256	47.2	34.3	30.7
Generated by establishments reporting.....	1,049	1,098	692	9,118	8,342	5,089	52.8	65.7	69.8
<b>ORGANS.</b>									
Primary power, total.....	477	530	172	8,261	3,006	3,334	100.0	100.0	100.0
Owned.....				1,548	1,089	2,406	47.6	54.3	74.9
Steam <sup>1</sup> .....	22	20	54	1,300	1,770	2,205	41.8	48.3	66.2
Engines.....	14	19	31	1,380	(2)	(2)	41.8	(2)	(2)
Turbines.....	14	(2)	(2)	188	219	291	5.8	8.0	8.7
Internal-combustion engines.....	8	10	23						
Rented.....									
Electric.....	455	507	118	1,703	1,877	838	52.4	45.7	25.1
Other.....	455	507	118	1,697	1,877	813	52.2	45.7	24.4
6						26	0.2		0.7
Electric.....	586	519	157	2,106	1,968	1,225	100.0	100.0	100.0
Rented.....	455	507	119	1,097	1,677	813	80.6	85.2	60.4
Generated by establishments reporting.....	181	12	39	400	291	412	19.4	14.8	33.6
<b>PIANO AND ORGAN MATERIALS.</b>									
Primary power, total.....	888	681	422	15,821	14,702	15,043	100.0	100.0	100.0
Owned.....				10,535	11,547	12,504	66.6	78.5	88.1
Steam <sup>1</sup> .....	81	114	147	9,730	10,386	11,223	61.5	70.6	74.6
Engines.....	57	81	105	9,675	(2)	(2)	61.2	(2)	(2)
Turbines.....	55	(2)	(2)	55	(2)	(2)	0.3	(2)	(2)
Internal-combustion engines.....	2	(2)	(2)						
Water wheels, turbines, and motors.....	11	10	16	469	663	419	3.0	4.5	2.8
Rented.....	13	14	26	336	498	802	2.1	3.4	5.7
Electric.....	757	487	275	5,286	8,155	2,539	33.4	21.5	16.9
Other.....	757	487	275	5,181	8,022	2,286	32.7	20.6	15.2
105				138	253	0.7	0.9	1.7	
Electric.....	4,966	769	452	9,390	6,835	4,886	100.0	100.0	100.0
Rented.....	757	487	275	5,181	3,022	2,286	55.2	44.2	48.8
Generated by establishments reporting.....	4,209	302	177	4,209	3,813	2,400	44.8	55.8	51.2

<sup>1</sup> Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.<sup>2</sup> Not reported separately.

## MANUFACTURES.

TABLE 12.—FUEL CONSUMED, BY STATES: 1919 AND 1914.

INDUSTRY AND STATE.	CENSUS YEAR.	COAL.		Coke (tons, 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
		Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).				
<b>PIANOS AND ORGANS AND MATERIALS.</b>							
United States.....	1919	27,455	184,556	5,854	2,236	335	82,128
	1914	36,812	185,934	5,809	1,979	(1)	70,622
Illinois.....	1919	98	69,519	1,548	740	263	3,875
	1914	1,099	65,220	1,108	41	(1)	5,433
Maryland <sup>1</sup> .....	1919	1,832	1,819	.....	600	.....	105
Massachusetts.....	1919	147	18,921	72	129	32	28,263
	1914	2,280	18,789	353	99	(1)	8,285
Michigan.....	1919	161	11,479	.....	.....	2	.....
	1914	161	12,215	.....	.....	.....	65
New York.....	1919	16,321	82,586	627	287	.....	10,981
	1914	23,871	28,093	588	837	(1)	14,378
Ohio.....	1919	7	5,145	1,773	.....	22	29,312
	1914	.....	7,957	1,803	24	(1)	42,906
Pennsylvania.....	1919	632	3,745	.....	.....	6	1,052
	1914	610	1,868	1,020	.....	.....	2,491
<b>PIANOS.</b>							
United States.....	1919	17,571	144,707	1,074	927	15	8,123
	1914	26,891	138,619	2,507	1,549	(1)	26,556
Connecticut <sup>2</sup> .....	1919	127	5,085	.....	.....	.....	.....
Illinois.....	1919	90	59,226	400	40	.....	3,061
	1914	1,020	59,296	423	5	(1)	2,877
Indiana.....	1919	.....	16,389	.....	.....	10	.....
	1914	.....	20,434	192	216	(1)	.....
Maryland <sup>1</sup> .....	1919	1,825	1,289	.....	600	.....	.....
Massachusetts.....	1919	.....	11,365	72	.....	.....	120
	1914	1,345	10,445	300	.....	.....	7,724
Michigan.....	1919	.....	10,028	.....	.....	.....	20
	1914	161	10,307	.....	.....	.....	.....
New Jersey.....	1919	5,818	990	.....	.....	.....	357
	1914	6,036	2,433	.....	.....	.....	55
New York.....	1919	9,041	22,183	602	287	.....	2,177
	1914	17,364	17,634	542	785	(1)	11,901
Ohio.....	1919	.....	4,705	.....	.....	5	45
	1914	.....	7,281	30	10	.....	1,077
Pennsylvania.....	1919	477	3,430	.....	.....	.....	343
	1914	547	1,250	1,020	.....	.....	74
<b>ORGANS.</b>							
United States.....	1919	1,047	7,706	52	480	5	15,557
	1914	812	12,691	22	171	(1)	13,814
<b>PIANO AND ORGAN MATERIALS.</b>							
United States.....	1919	8,837	32,053	4,728	829	315	60,448
	1914	9,109	34,624	8,340	259	(1)	30,252
Connecticut.....	1919	688	8,073	1,603	.....	.....	205
	1914	1,018	8,139	557	25	(1)	.....
Illinois.....	1919	.....	7,670	1,100	700	283	684
	1914	79	6,251	745	31	(1)	2,476
Massachusetts.....	1919	93	5,108	.....	129	32	26,403
	1914	880	1,682	49	99	(1)	518
New Jersey <sup>1</sup> .....	1919	862	1,403	225	.....	.....	809
New York.....	1919	7,198	9,472	25	.....	.....	4,132
	1914	6,454	7,800	46	72	(1)	1,697
Ohio.....	1919	7	348	1,773	.....	12	27,981
	1914	.....	636	1,778	10	(1)	31,811

<sup>1</sup> Included in figures for fuel oils.<sup>2</sup> Not shown separately in 1914.

## SPECIAL STATISTICS.

Certain additional information concerning the quantity and value of products is collected by means of supplemental schedules. At the last four censuses, data were obtained from establishments engaged primarily in the manufacture of pianos and organs, consisting of a detailed statement of the number and value of the different kinds of pianos and organs manufactured.

Production of pianos.—Table 13 shows in comparative form for 1904 to 1919, inclusive, the number

and value of the upright and grand pianos made in the United States and in the 10 states for which figures can be shown without disclosing the operations of individual establishments. From 1909 to 1919 there was a decrease in the number of upright pianos manufactured, this decrease being more noticeable in Illinois, Massachusetts, and New York, although the value of products increased in that period 52.3 per cent and from 1914 to 1919, 60.4 per cent. The total number and value of grand pianos

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manufactured show large increases at each census period shown in the table, the increase showing especially in the states of Illinois, Massachusetts, New York, Ohio, and Pennsylvania.

The value of products reported in this branch of the industry by New York, Massachusetts, and Illinois, in the order named, constituted 71.6 per cent of the total reported for the industry. These states held the same relative rank in 1914, reporting 74.4 per cent of the value of products for that year.

TABLE 13.—PIANOS (WITH AND WITHOUT PLAYER ATTACHMENTS)—NUMBER AND VALUE, BY STATES: 1919, 1914, 1909, AND 1904.

STATE.	Cens- sus year.	Total value.	UPRIGHT.		GRAND.	
			Num- ber.	Value.	Num- ber.	Value.
United States....	1919	\$94,521,939	314,239	\$82,908,637	22,318	\$11,613,302
	1914	55,311,863	315,764	51,696,808	10,510	4,614,967
	1909	58,493,346	355,804	54,465,177	8,741	4,038,869
	1904	41,470,479	253,825	37,815,056	7,372	3,601,423
Percent of total..	1919	100.0	93.4	87.7	6.0	12.3
	1914	100.0	96.8	91.8	3.2	8.2
	1909	100.0	97.6	93.1	2.4	6.9
	1904	100.0	97.2	91.2	2.8	8.8
Connecticut.....	1919	2,074,922	8,477	2,056,288	55	18,036
	1914	972,343	6,127	6,072,313	(1)	(1)
	1909	1,716,695	9,750	1,716,695	(1)	(1)
	1904	1,238,667	9,221	1,231,242	19	7,425
Illinois.....	1919	25,034,422	91,684	23,990,487	1,999	1,034,935
	1914	14,562,520	92,893	14,277,117	733	235,703
	1909	14,783,304	107,903	14,846,471	380	136,923
	1904	9,690,142	78,899	9,614,431	238	81,711
Indiana.....	1919	6,870,350	21,981	6,823,010	96	47,340
	1914	3,513,127	23,669	3,513,127	(1)	(1)
	1909	3,319,190	22,891	3,319,100	(1)	(1)
Massachusetts.....	1919	7,651,746	20,379	5,337,934	3,676	2,813,762
	1914	5,033,630	23,596	4,315,701	1,948	718,220
	1909	5,325,716	25,644	4,411,927	2,533	916,789
	1904	5,129,383	20,987	4,022,237	2,159	1,107,593
Michigan.....	1919	5,012,774	18,870	4,979,627	61	33,147
	1914	2,203,745	13,707	2,203,745	(1)	(1)
	1909	3,732,973	25,165	3,732,973	(1)	(1)
New Jersey.....	1919	1,246,918	3,585	970,256	779	276,062
	1914	895,711	4,618	895,711	(1)	(1)
	1909	693,917	3,970	693,917	(1)	(1)
New York.....	1919	35,002,633	108,860	28,053,453	13,208	6,849,180
	1914	22,285,359	115,812	19,606,064	5,403	2,678,395
	1909	22,764,334	127,482	20,393,863	4,298	2,370,521
	1904	16,684,911	98,491	14,819,717	3,541	1,805,104
Ohio.....	1919	2,957,768	11,769	2,656,803	565	300,965
	1914	1,924,679	10,239	1,762,273	365	162,406
	1909	1,901,294	11,118	1,778,629	229	122,365
	1904	1,855,610	11,119	1,782,910	160	72,700
Pennsylvania.....	1919	2,928,937	10,823	2,827,617	242	99,320
	1914	1,363,114	6,618	1,302,706	165	60,408
	1909	1,818,070	9,306	1,784,320	96	33,850
Wisconsin.....	1919	2,634,332	9,984	2,627,309	15	6,423
	1914	1,440,721	11,766	1,440,721	(1)	(1)
	1909	540,360	4,735	540,350	(1)	(1)
All other states.....	1919	3,109,187	6,827	1,976,208	1,602	1,132,932
	1914	2,116,314	6,719	1,406,488	1,890	700,526
	1909	1,894,863	7,831	1,436,042	1,205	457,921
	1904	6,371,316	40,128	6,344,519	1,255	526,797

<sup>1</sup> Included in "All other states" to avoid disclosing individual operations.

<sup>2</sup> Figures for 1904 included in "All other states," to avoid disclosing individual operations.

**Production of organs.**—Table 14 shows the number and value of the reed and pipe organs reported for the United States and for five specified states for 1919, 1914, 1909, and 1904.

The total value of organs manufactured increased from 1909 to 1919, while the total number manufactured has steadily decreased during that period, although the number of pipe organs manufactured

was greatest in 1914. The figures for pipe organs include those for 721 orchestrions valued at \$546,404. Measured by value of products, Illinois was the leading state in 1919 and 1914 in both reed and pipe organs, reporting 23 per cent and 22.4 per cent for 1919 and 31.4 per cent and 19.5 per cent in 1914, respectively, of the total value of products for each period.

TABLE 14.—ORGANS—NUMBER AND VALUE, BY STATES: 1919, 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Total value. <sup>1</sup>	REED.		PIPE.	
			Num- ber.	Value.	Num- ber.	Value.
United States....	1919	\$6,020,616	28,429	\$1,888,677	1,872	\$4,731,939
	1914	6,378,312	40,533	1,718,011	2,273	4,660,301
	1909	5,300,016	64,111	2,595,429	1,224	2,713,587
	1904	6,152,632	113,065	4,162,053	901	1,980,979
Per cent of total..	1919	100.0	93.4	28.5	0.6	71.5
	1914	100.0	94.7	26.9	5.3	73.1
	1909	100.0	88.1	48.9	1.9	61.1
	1904	100.0	99.2	67.7	0.8	32.3
Illinois.....	1919	1,403,598	7,765	434,760	707	1,058,838
	1914	1,448,420	12,508	540,043	559	985,386
	1909	1,281,415	28,644	973,783	154	307,632
	1904	1,900,513	55,610	1,739,220	140	230,823
Massachusetts.....	1919	303,952	17	1,840	39	302,112
	1914	370,204	(3)	(3)	73	379,204
	1909	330,993	(3)	(3)	151	330,693
	1904	671,770	2,073	150,883	137	520,887
New York.....	1919	642,782	500	94,363	229	548,389
	1914	734,771	(3)	(3)	679	734,771
	1909	330,373	(3)	(3)	245	330,373
	1904	133,471	(3)	(3)	58	133,471
Ohio.....	1919	194,298	-----	-----	70	194,298
	1914	187,691	(3)	(3)	85	187,691
	1909	199,964	(3)	(3)	85	199,964
	1904	316,063	1,949	94,577	137	251,486
Pennsylvania.....	1919	153,365	800	44,707	32	113,508
	1914	215,444	(3)	(3)	81	215,444
	1909	192,001	(3)	(3)	82	192,901
	1904	417,614	5,715	242,059	87	175,555
All other states.....	1919	3,827,621	17,347	1,312,887	705	2,514,734
	1914	3,412,773	28,027	1,177,903	760	2,234,805
	1909	2,964,070	36,407	1,621,616	507	1,343,024
	1904	2,613,571	47,709	1,935,314	342	678,257

<sup>1</sup> Includes orchestrions.

<sup>2</sup> Included in "All other states," to avoid disclosing individual operations.

Detailed statistics of quantity and value.—Table 15 shows in detail the statistics of products manufactured in the piano and organ branches of the industry for 1919, 1914, and 1909.

The production of pianos increased 10,283, or 3.2 per cent, in number, and \$38,210,076, or 67.9 per cent, in value, from 1914 to 1919, while from 1909 to 1919, the number decreased 27,988, or 7.7 per cent, but the value increased \$36,028,093, or 61.6 per cent.

The manufacture of upright pianos without player attachments decreased by 91,687, or 40.3 per cent, in number, and \$2,473,884, or 7.9 per cent, in value, during the period 1914 to 1919. This decrease is offset by the increase in the production of pianos for or with player attachments, which was 86,651, or 98.4 per cent, in number, and \$32,250,414, or 159.1 per cent, in value, during this period. These figures do not include the 2,145 automatic pianos, valued at \$896,346, nor 1,366 electric pianos, valued at \$538,865.

The production of player attachments in the piano and organ industry greatly increased, 15,329, or 236.1 per cent, in number, and \$985,664, or 115.3 per cent, in value of products, from 1914 to 1919.

## MANUFACTURES.

TABLE 15.—DETAILED STATISTICS OF QUANTITY AND VALUE:  
1919, 1914, AND 1909.

PRODUCT.	1919	1914	1909
Total value <sup>1</sup>	\$113,061,318	\$69,072,383	\$70,056,223
Pianos:			
Number.....	330,557	326,274	364,545
Value.....	\$94,521,939	\$50,311,863	\$58,493,846
Upright—			
Without player attachment—			
Number.....	135,999	227,686	321,309
Value.....	\$28,957,498	\$31,131,382	\$48,180,176
With player attachment—			
Number.....	174,729	84,856	34,495
Value.....	\$52,515,928	\$18,892,308	\$9,275,001
Grand—			
Baby grand—			
Without player attachment—			
Number.....	17,900	9,679	8,720
Value.....	\$8,619,054	\$4,201,302	\$4,009,700
With player attachment—			
Number.....	2,034	831	21
Value.....	\$1,711,314	\$413,665	\$28,900
Parlor—			
Without player attachment—			
Number.....	2,172	(2)	(2)
Value.....	\$1,109,501		
With player attachment—			
Number.....	125	(2)	(2)
Value.....	\$119,378		
Concert—			
Number.....	87	(2)	(2)
Value.....	\$54,055		
Automatic—			
Number.....	2,145	3,622	(2)
Value.....	\$896,348	\$1,373,200	
Electric—			
Number.....	1,306	(2)	(2)
Value.....	\$538,865		
Player attachments and actions made separately:			
Number.....	21,822	6,493	10,898
Value.....	\$1,840,498	\$854,774	\$1,474,630
Organs:			
Number.....	28,301	42,806	65,335
Value.....	\$6,020,618	\$8,378,312	\$5,309,016
Pipe—			
Number.....	1,151	1,185	1,224
Value.....	\$4,185,535	\$3,620,210	\$2,713,537

<sup>1</sup> In addition, products to the value of \$1,382,353 in 1919 and \$754,148 in 1914 were reported by establishments engaged primarily in other industries.

<sup>2</sup> Not reported separately.

TABLE 15.—DETAILED STATISTICS OF QUANTITY AND VALUE:  
1919, 1914, AND 1909—Continued.

PRODUCT.	1919	1914	1909
Organs—Continued.			
Reed—			
Number.....	26,429	40,533	64,111
Value.....	\$1,888,677	\$1,718,011	\$2,695,429
Orchestrions—			
Number.....	721	1,088	(2)
Value.....	\$546,404	\$1,040,091	
Perforated music rolls, value.....	\$3,103,554	\$833,357	\$216,150
Parts, materials, and supplies.....	\$1,492,707		
Piano and organ, value.....	\$1,258,303	\$2,913,197	\$2,442,611
Other musical instruments, value.....	\$174,494		
Repairs, value.....	\$1,252,156		
All other products, value.....	\$4,289,818	\$1,780,880	\$2,119,970

<sup>2</sup> Not reported separately.

The total number of organs decreased during each period shown in the table, while the value increased 3.8 per cent from 1914 to 1919. The production of reed organs decreased in number at each period shown, while pipe organs decreased in both number and value from 1914 to 1919.

Eight establishments, whose chief product was pianos, manufactured organs valued at \$1,663,455, while five, whose chief product was organs, manufactured pianos valued at \$86,012.

Eight establishments, whose chief products were pianos and organs, manufactured orchestrions valued at \$546,404. The value of perforated music rolls made in establishments manufacturing pianos and organs increased \$2,887,404, or 1,335.8 per cent, since 1909, the first census to report these data separately.

## GENERAL TABLES.

Table 16 shows, for 1919, 1914, and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of

materials, and value of products as reported for the combined industries. Table 17 presents, for 1919, by states, the more detailed statistics of the industry.

TABLE 16.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen-sus year.	Num-ber of es-tab-lish-ments.	Wage earners (aver-age num-ber).	Pri-mary horse-power.	Wages.	Cost of ma-terials.	Value of prod-ucts.	STATE.	Cen-sus year.	Num-ber of es-tab-lish-ments.	Wage earners (aver-age num-ber.)	Pri-mary horse-power.	Wages.	Cost of ma-terials.	Value of prod-ucts.
					Expressed in thousands.										
United States.....	1919	372	35,007	47,804	\$37,920	\$73,275	\$149,851	Minnesota.....	1919	3	76	204	\$85	\$172	\$427
	1914	478	37,556	44,349	23,353	41,253	88,948		1914	4	108	249	79	156	315
	1909	507	38,020	41,623	22,762	48,765	80,790		1909	5	143	153	100	126	294
California.....	1919	5	94	196	97	149	321	New Jersey.....	1919	19	1,642	2,315	1,517	*2,233	5,424
	1914	8	94	89	74	132	252		1914	24	1,960	2,102	1,096	1,788	3,503
	1909	11	57	53	60	41	150		1909	18	1,393	1,121	721	1,076	2,220
Connecticut.....	1919	13	2,028	2,734	1,809	3,587	7,397	New York.....	1919	131	11,317	12,589	12,368	28,635	52,231
	1914	19	2,267	2,698	1,277	2,570	5,230		1914	160	12,602	11,527	7,976	16,756	33,072
	1909	17	2,304	2,559	1,251	3,022	5,538		1909	184	11,938	10,905	7,752	17,495	33,080
Illinois.....	1919	52	8,575	10,475	9,118	15,538	36,255	Ohio.....	1919	22	1,820	2,747	1,840	3,154	6,797
	1914	71	8,334	8,597	5,237	8,322	19,706		1914	27	1,745	2,201	1,022	1,673	3,545
	1909	68	8,777	8,123	6,009	8,642	19,176		1909	30	1,841	2,254	1,092	1,922	3,926
Indiana.....	1919	10	1,474	2,269	1,617	3,467	7,179	Pennsylvania.....	1919	23	972	1,970	973	2,157	3,798
	1914	15	1,614	3,253	1,054	1,647	3,934		1914	28	922	1,233	555	1,058	2,084
	1909	15	1,687	2,650	994	1,703	3,680		1909	30	1,182	1,260	505	1,248	2,382
Massachusetts.....	1919	40	3,950	4,462	4,392	5,808	13,342	Wisconsin.....	1919	13	519	652	524	1,574	2,937
	1914	52	3,906	5,105	2,510	3,702	8,212		1914	16	495	553	397	866	1,470
	1909	59	4,245	4,454	2,688	4,140	9,106		1909	11	389	339	202	400	893
Michigan.....	1919	11	1,305	2,088	1,379	3,182	6,098	All other states.....	1910	30	2,135	5,103	2,101	3,619	7,645
	1914	17	1,070	1,927	877	1,250	2,682		1914	47	2,439	4,817	1,489	2,374	4,942
	1909	17	1,779	2,680	1,075	2,009	4,226		1909	42	2,825	5,062	1,333	1,842	4,504

<sup>1</sup> Excludes statistics for 3 establishments, to avoid disclosing individual operations.

## MANUFACTURES.

TABLE 17.—DETAILED STATEMENT,

INDUSTRY AND STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—	Maximum month.		Male.	Female.	Male.	Female.		

## PIANOS AND ORGANS AND MATERIALS.

1. United States.....	372	39,931	127	1,285	1,482	1,130	35,907	Au 38,426	Ja 32,458	38,750	32,658	5,445	465	182	\$155,200,792
2 California.....	5	117	2	7	5	9	94	My 116	De 72	110	82	28	-----	-----	523,600
3 Illinois.....	52	9,500	10	224	309	322	8,575	Oc 9,045	Ja 8,773	9,134	7,683	1,225	152	74	45,409,050
4 Maryland.....	7	778	3	16	22	17	720	No 747	Ja 677	743	697	27	17	2	3,530,280
5 Massachusetts.....	40	4,267	15	133	86	83	3,950	De 4,315	Ja 3,334	4,359	3,658	536	121	44	12,725,285
6 Michigan.....	11	1,461	1	42	82	31	1,305	De 1,594	My 1,132	1,584	1,372	169	44	9	8,377,220
7 Minnesota.....	3	100	3	8	10	3	76	Ap 85	Ja 68	77	75	2	-----	-----	924,484
8 New York.....	131	12,014	39	440	434	334	11,317	Au 13,005	Oc 7,972	11,573	9,884	1,648	24	17	48,025,215
9 Ohio.....	22	2,025	11	84	68	42	1,820	De 2,152	Ja 1,400	2,165	1,810	343	2	-----	6,023,145
10 Pennsylvania.....	23	1,094	17	46	33	26	972	De 1,018	Ja 924	1,015	887	90	38	-----	4,434,109
11 Vermont.....	3	504	1	10	32	17	444	De 520	Ja 347	521	479	42	-----	-----	1,703,729
12 All other states <sup>3</sup> .....	75	7,471	25	275	201	246	6,634	-----	-----	7,479	6,031	1,345	67	36	23,324,070

## PIANOS.

1. United States.....	191	25,760	33	803	1,168	709	22,957	Se 24,719	Oc 20,902	24,665	22,131	2,162	287	85	116,106,536
2 Connecticut.....	5	684	-----	41	13	22	608	No 683	Ja 544	655	582	65	5	3	3,111,770
3 Illinois.....	33	7,781	7	168	337	278	6,991	Oc 7,439	Ja 6,417	7,539	6,620	721	120	60	42,005,469
4 Indiana.....	8	1,591	-----	34	84	41	1,432	De 1,783	Ja 1,100	1,727	1,406	230	18	4	4,373,370
5 Massachusetts.....	14	2,419	3	70	67	51	2,298	De 2,394	Ja 1,885	2,394	2,215	114	57	8	8,545,273
6 Michigan.....	8	1,257	-----	34	77	24	1,122	De 1,288	My 1,038	1,288	1,103	132	44	9	7,882,678
7 New Jersey.....	6	813	1	19	62	18	713	Je 820	No 544	777	610	158	-----	-----	1,903,371
8 New York.....	70	7,868	15	304	396	245	6,908	Se 8,050	Oc 3,822	8,957	6,537	415	4	1	33,857,648
9 Ohio.....	10	902	-----	52	37	26	787	Se 979	Ja 595	979	825	152	2	-----	3,054,450
10 Pennsylvania.....	11	855	6	27	28	20	774	No 795	Ja 747	704	723	63	3	-----	3,714,979
11 Wisconsin.....	7	521	-----	27	18	28	448	De 477	Ja 387	477	432	32	13	-----	2,183,302
12 All other states <sup>4</sup> .....	10	1,069	1	27	49	46	946	-----	-----	1,078	995	71	12	-----	4,074,220

## ORGANS.

1. United States.....	68	2,285	56	121	84	83	1,941	De 2,111	Ja 1,770	2,182	1,850	235	41	6	6,770,537
2 Illinois.....	10	317	2	15	13	14	273	Jy 291	Ja 212	200	246	39	3	2	925,285
3 Massachusetts.....	5	166	3	12	3	7	141	De 155	Ja 128	155	145	10	-----	-----	472,119
4 New York.....	16	321	18	13	8	14	268	Do 324	Ja 213	328	250	63	2	2	601,561
5 Ohio.....	6	75	10	10	-----	2	53	De 60	Ja 46	59	54	5	-----	-----	154,935
6 Pennsylvania.....	7	108	8	12	3	1	70	De 95	Fe 63	95	63	32	-----	-----	260,055
7 Wisconsin.....	4	88	3	12	2	3	68	No 85	Ja 45	80	68	12	-----	-----	370,841
8 All other states <sup>5</sup> .....	20	1,215	12	47	55	42	1,059	-----	-----	1,127	1,015	106	4	2	3,377,741

## PIANO AND ORGAN MATERIALS.

1. United States.....	113	11,886	38	361	230	248	11,000	Au 11,987	Ja 9,103	11,953	8,077	3,048	137	91	32,323,669
2 Connecticut.....	6	1,379	4	38	26	20	1,291	De 1,487	Ja 984	1,487	1,097	340	21	29	3,073,105
3 Illinois.....	9	1,402	1	41	19	30	1,311	Au 1,391	Ja 1,214	1,305	808	465	20	12	2,478,200
4 Massachusetts.....	21	1,682	9	51	16	25	1,581	No 1,855	Fe 1,303	1,810	1,298	412	64	36	3,707,893
5 New Jersey.....	11	896	4	39	42	63	758	No 805	Ja 684	706	430	330	6	-----	1,857,755
6 New York.....	36	4,425	6	123	80	75	4,141	Au 4,667	Ja 3,426	4,200	3,088	1,170	18	14	13,476,006
7 Ohio.....	6	1,048	1	22	31	14	980	De 1,113	Ja 768	1,117	931	186	-----	-----	2,813,705
8 Pennsylvania.....	5	136	3	7	2	5	119	Oc 128	Ja 108	126	96	27	8	-----	450,076
9 All other states <sup>6</sup> .....	10	918	10	40	14	26	828	-----	-----	1,052	929	118	5	-----	3,566,804

<sup>1</sup> Includes water wheels and turbines (irrespective of ownership of water supply) and water motors (operated by water from city mains).<sup>2</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).<sup>3</sup> All other states embrace: Alabama, 1 establishment; Connecticut, 13; Indiana, 10; Iowa, 2; Kentucky, 6; Louisiana, 1; Maine, 1; Missouri, 2; New Hampshire, 1; New Jersey, 19; North Carolina, 1; Rhode Island, 1; Virginia, 3; Washington, 1; Wisconsin, 13.<sup>4</sup> All other states embrace: Alabama, 1 establishment; Iowa, 1; Kentucky, 2; Maine, 1; Maryland, 3; Minnesota, 2.

# PIANOS AND ORGANS AND MATERIALS.

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BY STATES: 1919.

EXPENSES.									Value of products.	Value added by manufacturer.	POWER.						Electric horsepower generated in establishments reporting.		
Salaries and wages.			Rent and taxes.			For materials.					Primary horsepower.								
Officials.	Clerks, etc.	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.			Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>1</sup>	Rented. <sup>2</sup>				
\$5,610,866	\$3,352,896	\$37,910,855	\$60,618	\$1,223,231	\$3,732,299	\$71,719,369	\$1,555,524	\$149,850,945	\$70,578,052	47,804	30,050	802	1,280	436	15,176	13,736	1		

## PIANOS AND ORGANS AND MATERIALS.

\$5,610,866	\$3,352,896	\$37,910,855	\$60,618	\$1,223,231	\$3,732,299	\$71,719,369	\$1,555,524	\$149,850,945	\$70,578,052	47,804	30,050	802	1,280	436	15,176	13,736	1	
17,725	10,632	96,655	.....	9,577	1,848	145,707	3,720	320,975	171,548	106	6,860	600	25	.....	196	4,233	2	
1,138,109	920,464	9,118,096	2,540	143,327	1,234,166	15,156,406	381,068	36,255,055	20,716,681	10,475	2,670,421	1,624,260	619	.....	225	44	577	3
84,849	35,992	816,636	1,708	14,016	67,480	1,022,890	23,271	13,342,488	7,534,938	4,462	2,952	57	96	122	1,235	1,703	5	
631,885	152,665	4,391,735	17,120	145,341	271,327	5,624,624	182,026	.....	2,915,734	2,098	1,362	.....	6	730	482	6	482	6
269,897	162,821	1,379,252	.....	7,357	190,901	3,123,073	50,067	6,097,874	255,844	204	125	.....	79	40	7	40	7	
33,125	35,530	84,738	.....	.....	11,298	184,660	7,318	427,328	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1,913,684	1,016,182	12,367,547	35,758	735,452	1,040,688	28,186,605	468,350	52,231,101	23,596,148	12,589	7,240	150	348	13	4,818	1,985	8	
252,321	180,653	1,839,017	2,380	73,281	187,579	3,100,652	53,385	6,707,120	3,043,092	2,747	1,002	455	.....	1,692	207	9	207	9
125,101	97,542	973,302	6,743	18,527	117,098	2,123,590	33,590	3,798,015	1,940,855	1,970	1,002	23	.....	285	386	10	386	10
70,546	66,122	430,504	.....	.....	18,910	575,272	24,705	1,422,795	822,817	1,425	1,030	95	300	388	11	388	11	
1,043,534	685,293	6,421,410	3,363	76,353	500,120	12,515,884	317,253	26,487,764	13,054,627	11,019	7,840	55	102	205	2,807	3,726	12	

## PIANOS.

3,731,656	2,666,010	25,474,200	27,640	910,874	2,709,214	53,322,488	1,042,108	107,088,050	52,723,304	28,732	19,015	807	623	100	8,187	9,118	1	
128,985	36,203	645,322	.....	8,260	15,578	1,450,353	26,064	2,505,958	1,022,941	867	720	.....	137	262	2	262	2	
924,736	857,240	7,654,497	.....	119,170	1,145,210	12,648,005	306,056	30,848,147	17,893,486	8,421	5,485	600	.....	2,336	2,968	3	2,968	3
203,638	224,249	1,575,620	.....	.....	187,659	3,203,060	82,377	6,978,030	3,001,093	2,184	1,715	.....	469	990	4	990	4	
348,484	138,346	2,703,293	.....	102,478	210,381	3,312,415	117,706	8,123,257	4,699,136	2,502	1,812	57	100	633	1,435	5	1,435	5
247,497	149,324	1,170,048	.....	7,357	181,579	2,774,186	49,811	5,297,445	2,673,948	1,787	1,037	.....	730	482	6	482	6	
54,304	102,080	723,249	.....	21,208	34,945	1,142,084	40,790	2,205,253	1,022,370	1,440	1,305	.....	135	875	7	875	7	
1,409,888	823,089	8,085,286	20,800	578,278	623,270	21,729,348	310,071	37,978,813	15,039,394	6,784	3,575	150	303	2,766	915	8	915	8
135,497	87,090	743,274	.....	43,742	63,078	1,040,773	19,126	3,475,543	1,615,644	935	600	95	.....	240	207	9	207	9
77,660	88,854	759,417	5,200	8,580	114,004	1,720,480	23,099	3,022,688	1,272,509	1,555	1,450	.....	205	375	10	375	10	
81,209	73,303	438,023	1,640	3,230	45,008	1,456,583	27,538	2,669,704	1,185,583	582	350	.....	232	66	11	66	11	
119,769	105,242	973,201	.....	18,562	70,502	1,842,001	44,830	3,883,212	1,096,381	1,705	986	.....	225	514	600	319	8	

## ORGANS.

339,262	184,410	1,978,518	26,806	45,505	72,938	2,111,833	105,264	5,973,268	3,750,171	3,251	1,300	.....	188	.....	1,703	409	1	
49,832	25,326	267,981	1,796	10,144	19,276	327,024	15,502	869,107	526,581	425	125	.....	300	40	2	40	2	
34,588	9,006	161,091	17,050	720	3,924	125,643	6,089	445,083	313,351	167	40	90	37	50	3	50	3	
20,642	20,718	288,858	676	11,903	10,357	168,304	18,487	683,169	406,378	384	110	20	254	.....	4	254	4	
14,810	2,012	67,275	2,380	2,404	1,386	91,993	1,505	233,193	140,095	60	.....	20	49	.....	5	49	5	
18,823	3,865	81,334	1,473	1,835	1,823	92,943	2,124	224,472	129,405	214	125	23	66	.....	7	66	7	
21,850	240	81,091	1,250	2,463	70,763	3,367	2,605	166,614	166,614	68	.....	23	68	.....	7	68	7	
178,717	123,243	1,030,888	3,431	17,129	33,709	1,226,750	58,130	3,268,627	1,083,747	1,924	960	35	.....	920	319	8	319	8

## PIANO AND ORGAN MATERIALS.

1,639,948	502,476	10,407,137	15,172	266,852	950,147	16,285,048	408,092	36,789,627	20,096,487	15,821	9,675	55	409	336	5,286	4,209	1		
151,885	49,555	1,096,669	.....	12,080	81,155	1,899,882	57,484	4,260,704	2,800,338	1,628	1,173	55	61	201	138	1,440	2		
103,541	46,898	1,195,642	750	14,013	69,670	2,180,777	60,350	4,537,741	2,290,614	1,629	1,250	.....	25	354	1,225	3	1,225	3	
248,813	32,313	1,527,351	70	42,143	48,022	2,186,566	65,131	4,774,148	2,522,451	1,793	1,100	.....	6	22	666	218	4	218	4
195,505	82,463	629,329	.....	13,108	151,793	850,097	22,829	2,822,142	1,949,216	755	585	.....	6	5	160	157	5	157	5
513,174	172,375	3,993,403	14,282	145,211	407,059	6,268,953	139,792	18,570,119	7,160,374	5,421	3,575	.....	25	13	1,808	1,070	6	1,070	6
102,014	61,551	1,029,368	27,075	123,115	1,068,286	32,754	1,068,286	1,987,353	1,743	340	.....	1,403	.....	114	11	11	11	8	
28,699	4,823	132,611	70	8,112	2,169	304,167	7,737	550,855	238,951	201	87	.....	6	95	646	88	88	88	8
136,317	49,508	862,784	.....	5,110	67,171	1,526,320	22,015	3,180,525	1,632,100	2,051	1,905	.....	6	95	646	88	88	88	8

<sup>5</sup> All other states embrace: California, 3 establishments; Connecticut, 2; Iowa, 1; Kentucky, 3; Maryland, 2; Minnesota, 1; Missouri, 2; New Jersey, 2; North Carolina, 1; Vermont, 1; Virginia, 2.

<sup>6</sup> All other states embrace: California, 2 establishments; Indiana, 2; Kentucky, 1; Louisiana, 1; Maryland, 2; Michigan, 3; New Hampshire, 1; Rhode Island, 1; Vermont, 2; Virginia, 1; Washington, 1; Wisconsin, 2.

# MUSICAL INSTRUMENTS AND MATERIALS, NOT SPECIFIED.

## GENERAL STATISTICS.

**General character of the industry.**—The establishments in this industry were engaged primarily in the manufacture of various kinds of wind, percussive, and stringed musical instruments, and materials therefor. The instruments include, among others, accordions, banjos, bones, bugles, castanets, concertinas, cornets, trombones, trumpets, and other metal instruments for band and orchestral use; cymbals, drums, bass and snare; fifes, flageolets, flutes, piccolas, guitars, harps, lutes, lyres, mandolins, mechanical musical instruments, musical bells, sonnettes of wood and metal, ukuleles, steel guitars, violoncellos, and all other instruments of the violin type; xylophones and zithers. Parts of these instruments, such as strings, drum-heads, violin bows and bridges, etc., are also produced for sale, as such, direct to musicians or to manufacturers of complete instruments. Thus there is some duplication within the industry. The number and value of products were not reported separately. In addition to the production here presented, products

to the value of \$513,884 were reported by establishments engaged primarily in other industries.

**Comparative summary.**—Table 18 summarizes the statistics of establishments engaged in the manufacture of musical instruments and materials not specified, for each census from 1879 to 1919, and gives percentages of increase. There was comparatively little change from 1879 to 1914 in the more important items given in the table. Figures for 1919 show a marked increase in all items with the exception of number of establishments, which shows a slight decrease from 1914 to 1919.

In 1919 Indiana ranked first as measured by value of products, to which position it advanced in 1914; Illinois retained second place, and New York third. In both censuses these three states reported more than one-half of the total value of products.

**Persons engaged in the industry.**—Table 19 shows for 1919 and 1914 the number of persons engaged in the industry distributed by sex and age.

TABLE 18.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. <sup>1</sup>					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	240	241	187	181	220	293	84	-0.4	28.9	8.3	-21.0	-21.8	.....
Persons engaged.....	4,957	2,410	2,269	2,554	2,799	(2)	(2)	105.7	6.2	-11.2	-8.8	.....	.....
Proprietors and firm members.....	223	234	187	190	236	(2)	(2)	-4.7	25.1	-1.6	-19.5	.....	.....
Salaried employees.....	621	345	260	225	158	(2)	(2)	80.0	32.7	15.6	42.4	.....	.....
Wage earners (average number).....	4,113	1,831	1,522	2,139	2,405	1,056	573	124.6	0.5	-14.8	-11.1	127.7	(2)
Primary horsepower.....	8,286	1,895	1,423	1,603	1,417	696	(2)	76.2	31.1	-11.2	13.1	103.6	.....
Capital.....	\$7,876,182	\$3,857,787	\$3,207,660	\$3,748,460	\$3,896,101	\$1,328,329	\$654,850	104.2	17.0	-11.9	-8.9	193.1	103.0
Salaries and wages.....	5,016,828	1,545,709	1,335,128	1,413,824	1,373,784	862,177	293,062	224.6	15.8	-5.6	2.9	59.3	194.2
Salaries.....	1,032,172	385,197	342,853	257,766	141,745	(2)	(2)	168.0	12.4	36.2	77.6	.....	.....
Wages.....	3,984,656	1,180,512	992,375	1,162,068	1,232,039	(2)	(2)	243.4	17.0	-14.6	-5.7	.....	.....
Paid for contract work.....	32,027	14,601	14,990	1,042	6,254	(2)	(2)	119.3	-2.6	1,338.0	-83.3	.....	.....
Rent and taxes.....	415,070	128,708	86,309	87,457	480,617	(2)	(2)	222.5	49.1	.....	.....	.....	.....
Cost of materials.....	4,444,729	1,022,554	889,600	1,129,939	1,205,337	510,064	385,776	334.7	14.9	-21.3	-6.3	136.0	32.4
Value of products.....	12,506,334	3,624,667	3,228,108	3,481,710	8,384,734	1,888,613	853,746	245.0	12.3	-7.3	2.6	79.7	121.2
Value added by manufacture <sup>2</sup> .....	8,061,605	2,602,083	2,388,508	2,361,771	2,189,307	1,377,040	467,070	209.8	11.3	-0.6	7.4	58.9	194.4

<sup>1</sup> A minus sign (−) denotes decrease; percentages are omitted where base is less than 100.

<sup>2</sup> Figures not available.

<sup>3</sup> Figures not strictly comparable.

<sup>4</sup> Exclusive of internal revenue.

<sup>5</sup> Value of products less cost of materials.

# MUSICAL INSTRUMENTS AND MATERIALS.

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TABLE 19.—PERSONS ENGAGED IN THE INDUSTRY: 1919 AND 1914.

CLASS.	Cen-	sus-	year.	Total.	Male.	Fe-	PER CENT OF		CLASS.	Cen-	sus-	year.	Total.	Male.	Fe-	PER CENT OF	
							Male.	Female.								Male.	Female.
All classes.....	1910	4,957		3,908	1,040		78.8	21.2	Clerks and other subordinate salaried employees.	1910	426		166	260	39.0	61.0	
	1914	2,410		2,002	408		83.1	16.9		1914	248		85	163	34.3	65.7	
Proprietors and officials.....	1910		418		410	8	98.1	1.9	Wage earners (average number).....	1910	4,113		3,332	781	81.0	19.0	
	1914		331		324	7	97.0	2.1		1914	1,831		1,593	238	87.0	13.0	
Proprietors and firm members.....	1910		223		220	3	98.7	1.3	16 years of age and over.....	1910	4,043		3,285	758	81.3	18.7	
	1914		234		229	5	97.0	2.1		1914	1,801		1,571	230	87.2	12.8	
Salaried officers of corporations.....	1910		67		64	3	95.5	4.5	Under 16 years of age.....	1910	70		47	23	67.1	32.9	
	1914		46		44	2	95.7	4.3		1914	30		22	8	73.3	26.7	
Superintendents and managers.....	1910	128		126	2		98.4	1.6									
	1914	51		51	.....		100.0	.....									

## GENERAL TABLES.

Comparative summary and detailed statement, by states.—Table 20 shows for 1919 and 1914 and in totals for 1909, comparative statistics, by states, for number of establishments, average number of wage earners,

primary horsepower, wages, cost of materials, and value of products; and Table 21 presents for 1919, by states, the more detailed statistics of the industry.

TABLE 20.—COMPARATIVE SUMMARY, BY STATES: 1919 AND 1914.

STATE.	Cen-	Num-	Wage	Pri-	Wages.	Cost of	Value of	STATE.	Cen-	Num-	Wage	Pri-	Wages.	Cost of	Value of		
Expressed in thousands.																	
United States.....	1910	240	4,113	3,286	\$3,985	\$4,445	\$12,506	Minnesota.....	1910	3	3	5	\$4	\$1	\$10		
	1914	241	1,831	1,865	1,101	1,023	8,025		1914	4	4	12	2	2	21		
	1909	187	1,822	1,423	992	890	3,228	Missouri.....	1910	5	7	3	6	11	27		
California.....	1910	16	89	96	95	72	222		1914	5	9	3	5	6	17		
	1914	17	20	9	17	15	65	New Jersey.....	1910	8	201	317	264	422	987		
Illinois.....	1910	23	660	628	695	790	2,171		1914	7	242	244	112	128	354		
	1914	27	378	352	237	250	710	New York.....	1910	67	352	201	380	678	2,060		
Indiana.....	1910	14	1,337	825	1,220	1,101	3,148		1914	61	227	192	136	185	636		
	1914	12	395	503	264	155	742	Pennsylvania.....	1910	22	115	93	109	108	328		
Massachusetts.....	1910	25	246	262	238	280	792		1914	18	73	97	46	24	133		
	1914	25	282	302	205	163	410	Washington.....	1910	5	2	2	1	1	7		
Michigan.....	1910	11	378	268	380	258	866		1914	8	3	3	1	1	13		
	1914	14	139	76	95	47	320	All other states.....	1910	41	620	526	570	714	1,888		
									1914	43	60	72	41	47	177		

## MANUFACTURES.

TABLE 21.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15 OR NEAREST REPRESENTATIVE DAY.						EXPENSES.			
		Total.	Proprietors and firm members.	Salaries of officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.		
					Male.	Female.	Number, 15th day of—		Male.	Female.	Male.	Female.	Under 16.					
							Maximum month.	Minimum month.					Officials.	Clerks, etc.				
United States.....	240	4,957	223	195	166	260	4,113		Do 4,377	Ja 3,853	4,361	3,513	774	50	24	\$7,876,182	\$642,109	\$390,063
California.....	18	117	24	2	1	1	89		Do 103	Ja 1 86	104	78	23	3	...	80,534	4,000	1,900
Illinois.....	23	706	8	35	27	27	669		No 735	Ja 584	717	655	55	18	9	1,416,948	170,569	62,404
Indiana.....	14	1,499	9	24	47	82	1,337		Se 1,350	Ja 1,318	1,340	1,177	167	1	1	2,333,730	80,064	83,836
Iowa.....	4	7	7	7	6	13	246		Do 272	Ja 201	272	222	36	14	...	8,250	446,430	53,120
Massachusetts.....	25	304	22	17	6	13	246		Do 272	Ja 201	272	222	36	14	...	17,572	446,430	53,120
Michigan.....	11	474	7	31	9	40	378		Ja 407	Se 362	360	266	93	...	1	582,327	64,173	50,390
Minnesota.....	3	6	3	3	3	3	3		(2) 3	(2) 3	3	3	3	3	...	3,240	33,298	4,200
Missouri.....	5	13	3	3	3	3	7		Jy 307	Ja 257	297	160	115	12	10	681,088	44,597	10,286
New Jersey.....	8	322	4	12	6	9	291		No 473	Ja 300	457	340	116	1	...	713,163	76,064	65,536
New York.....	67	505	75	26	37	15	352		Do 192	Mh 142	172	145	26	1	...	356,230	18,324	12,417
Pennsylvania.....	22	159	23	7	5	9	115		Se 130	Ja 91	130	129	...	1	...	8,170	371,911	15,280
Washington.....	5	5	5	5	5	5	5		Do 192	Mh 142	172	145	26	1	...	45,051	831,808	52,383
All other states <sup>3</sup> .....	30	572	27	17	22	44	402		Do 192	Mh 142	172	145	26	1	...	2,956	416	27
EXPENSES—continued.																		
STATE.	Salaries and wages—Continued.	EXPENSES—continued.				For materials.			Value of products.	Value added by manufacture.	POWER.							
		Rent and taxes.		For materials.			Primary horsepower.				Primary horsepower.							
		Wage earners.	For contract work.	Rent of factory.		Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>4</sup>	Rent-ed. <sup>5</sup>	Electric horse-power generated in establishments reporting.	
				Rent of factory.														
United States.....	\$3,984,656	\$32,027	\$137,045	\$278,025	\$4,295,490	\$149,239	\$12,506,334	\$8,061,605	3,286	142	...	88	100	2,956	27	...		
California.....	94,677	8,393	5,238	372	60,773	2,515	222,236	149,948	96	...	...	...	...	96	...	...		
Illinois.....	694,716	6,732	22,234	37,112	773,058	26,266	2,170,915	1,371,601	628	35	...	...	...	593	...	...		
Indiana.....	1,228,834	313	2,635	105,259	1,057,050	43,319	3,148,410	2,047,141	825	...	...	20	...	805	25	...		
Iowa.....	276	66	1,165	99	7,704	6,439	7,704	6,439	3	...	...	3	...	3	...	...		
Massachusetts.....	238,470	4,483	18,750	4,226	272,990	6,090	792,714	512,734	262	42	...	7	90	123	...	...		
Michigan.....	380,253	200	4,126	26,221	245,348	13,121	866,101	607,632	268	...	...	...	...	268	...	...		
Minnesota.....	3,914	...	405	76	626	115	3,981	8,940	5	...	...	5	...	5	...	...		
Missouri.....	3,621	...	753	139	10,720	184	27,372	16,468	3	...	...	3	...	3	...	...		
New Jersey.....	283,851	1,420	4,422	36,767	408,977	12,850	987,216	565,389	317	45	...	13	5	254	...	...		
New York.....	379,877	8,292	48,518	43,485	664,943	18,184	2,050,607	1,381,580	261	...	...	19	...	242	...	...		
Pennsylvania.....	109,017	3,096	10,286	2,126	103,113	5,212	327,973	219,648	93	20	...	4	...	69	...	...		
Washington.....	1,715	...	52	831	29	...	6,640	5,780	2	...	...	2	...	2	...	...		
Wisconsin.....	152,911	...	1,151	12,090	107,336	10,555	542,793	424,902	77	...	...	...	...	77	...	...		
All other states <sup>3</sup> .....	423,710	90	15,731	10,014	578,369	14,880	1,336,612	743,423	446	...	...	25	5	416	2	...		

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.<sup>3</sup> All other states embrace Colorado, 2 establishments; Connecticut, 6; Florida, 1; Kentucky, 1; Maine, 2; Maryland, 1; North Carolina, 1; Ohio, 11; Oklahoma, 1; Oregon, 1; Texas, 1; Vermont, 1; West Virginia, 1.<sup>4</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).<sup>5</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

# PHONOGRAPHS, GRAPHOPHONES, AND TALKING MACHINES.

## GENERAL STATISTICS.

**General character of the industry.**—Establishments manufacturing mechanical devices for registering and producing speech, music, and other sounds are included in this industry. Those manufacturing records, blanks, needles, and parts and accessories, cabinets, and other supplies and materials used in the industry are also included.

**Comparative summary.**—Table 22 summarizes the statistics of establishments engaged in the manufacture of phonographs, graphophones, and talking machines for each census year from 1899 to 1919 and gives percentages of increase. The development of the industry was most marked in the period 1914 to 1919, when there was an increase of 22,460, or 197.6 per cent, in the number of persons engaged, while the value of products shows an increase of \$131,431,954, or 484.7 per cent.

**Principal states, ranked by value of products.**—Table 23 shows the more important statistics of the industry, by states, ranked by value of products reported for 1919. Connecticut ranked higher than some of those named in the table, but data for that state could not be shown without disclosing the operations of individual establishments.

Statistics are shown for seven states separately. New Jersey, which ranks first, reported 35 per cent of the total, having advanced from seventh place since 1914, while New York dropped from first place in 1914 to third in 1919, and Illinois from second to fourth.

**Persons engaged in the industry.**—Table 24 shows for 1919 and 1914 the number of persons engaged in the industry, distributed by sex, and the average number of wage earners distributed also by age. The sex and age classification of the average number of wage earners in this table is an estimate obtained by the method described in the "Explanation of terms."

**Wage earners employed, by months.**—Table 25 gives for the industry the total average number of wage earners employed during 1919 and 1914, together with the number employed on the 15th day of each month or the nearest representative day for the United States as a whole, and in 1919 for states in which the average number of wage earners was 500 or more, together with the per cent that the minimum is of the maximum.

**Prevailing hours of labor.**—Table 26 shows a marked shortening of the working day for the industry since 1914. In that year 15.3 per cent were reported as employed fewer than 54 hours per week as against 72.6 per cent in 1919.

**Size of establishments, by average number of wage earners.**—Table 27 discloses the fact that 41 establishments, or 24.7 per cent of the total, employed fewer than 6 wage earners each, while only 83, or three-tenths of 1 per cent of the total number of wage earners, were employed therein, evidencing the predominance of small establishments based on the average number of wage earners. The classes "501 to 1,000" and "Over 1,000" wage earners comprising 10 establishments employed 20,847 wage earners, or 70.8 per cent of the total average number.

**Size of establishments, by value of products.**—The statistics in Table 28 show the degree of concentration of production in large establishments. In 1919 the groups "\$500,000 to \$1,000,000" and "\$1,000,000 and over" employed 25,384, or 88 per cent of the total average number of wage earners, and reported products to the value of \$143,946,448, or 90.8 per cent of the total value of products.

**Character of ownership.**—Table 29 emphasizes the predominance of the corporate form of ownership. Corporations owned 79.5 per cent of the total number of establishments for the industry for 1919, employed 98.8 per cent of the total average number of wage earners, and reported 98.8 per cent of the value of products.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 30, there was an increase in the total horsepower for the industry of 28,480 horsepower, or 243.7 per cent, due wholly to a large increase in rented power.

**Fuel consumed.**—Table 31 shows the principal kinds of fuel used in the industry in 1919 and 1914 for the United States, and for the states in 1919 in which considerable quantities of fuel were consumed. New Jersey reported 68 per cent of the anthracite coal, 45.4 per cent of the bituminous coal, 54.1 per cent of the fuel oils, and 74.7 per cent of the gas.

## MANUFACTURES.

TABLE 22.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

			1919	1914	1909	1904	1899	PER CENT OF INCREASE. <sup>1</sup>			
								1914-1919	1909-1914	1904-1909	1899-1904
Number of establishments.....			166	18	18	14	11	.....	.....	.....	.....
Persons engaged.....			33,826	11,366	5,028	3,910	1,415	197.8	91.7	50.5	178.4
Proprietors and firm members.....			48	11	2	6	4	.....	.....	.....	.....
Salaried employees.....			5,062	1,974	727	537	144	156.4	171.5	35.4	272.0
Wage earners (average number).....			28,721	9,381	5,199	3,307	1,267	206.2	80.4	53.0	168.1
Primary horsepower.....			40,168	11,088	6,371	2,522	1,082	243.7	83.4	152.6	133.1
Capital.....			\$105,241,350	\$33,770,511	\$14,363,361	\$8,740,618	\$3,348,282	211.6	135.1	64.3	161.0
Salaries and wages.....			42,650,716	8,770,064	3,785,766	2,350,392	787,635	386.3	131.7	61.1	108.4
Salaries.....			8,687,568	2,429,169	945,263	686,489	179,145	257.6	187.0	41.8	272.0
Wages.....			33,963,148	6,341,495	2,840,503	1,688,903	608,490	435.6	123.2	68.7	170.7
Paid for contract work.....			1,751,018	250	4,240	10,415	.....	.....	.....	-93.9	-50.3
Rent and taxes.....			9,082,122	153,941	50,587	21,027	11,066	5,799.7	204.3	.....	.....
Cost of materials.....			59,740,205	7,018,040	3,099,301	4,161,136	827,520	747.6	127.4	-25.5	402.8
Value of products.....			163,547,870	27,115,916	11,726,996	10,237,075	2,246,274	484.7	131.2	14.5	355.7
Value added by manufacture <sup>2</sup> .....			98,807,665	20,067,876	8,826,605	6,075,939	1,418,745	392.4	132.6	42.0	328.3

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.<sup>2</sup> Exclusive of internal revenue.<sup>3</sup> Value of products less cost of materials.

TABLE 23.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amt. (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amt. (expressed in thousands).	Per cent distribution.	Rank.
United States...	166	28,721	100.0	....	\$158,548	100.0	....	\$98,808	100.0	...	Indiana.....	13	2,178	7.0	3	\$7,977	5.0	5	\$3,068	4.0	5
New Jersey.....	15	12,256	42.7	1	55,419	35.0	1	34,759	35.2	1	Ohio.....	20	1,424	5.0	6	6,221	3.9	6	3,285	3.3	7
New York.....	32	1,876	6.5	5	18,552	10.4	3	7,493	7.6	3	Michigan.....	10	708	2.8	9	4,230	2.7	8	2,558	2.6	8
Illinois.....	36	1,010	6.7	4	12,842	8.1	4	5,745	5.8	4	Wisconsin.....	9	898	3.1	8	3,882	2.4	9	2,016	2.0	9
All other states <sup>1</sup> ....	31	7,302	25.6	....	51,445	32.4	....	51,445	32.4	....	All other states <sup>1</sup> ....	31	7,302	25.6	....	51,445	32.4	....	35,968	30.5	...

<sup>1</sup> Includes Connecticut, which ranked second according to value of products, and Iowa, which ranked seventh.

TABLE 24.—PERSONS ENGAGED IN THE INDUSTRY: 1919 AND 1914.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	33,826	26,540	7,286	78.5	21.5	Clerks and other subordinate salaried employees.....	1919	4,203	2,269	1,934	54.0	46.0
	1914	11,366	9,854	1,512	86.7	13.3		1914	1,781	1,236	555	69.0	31.0
Proprietors and officials.....	1919	902	881	21	97.7	2.3	Wage earners (average number).....	1919	28,721	23,390	5,331	81.4	18.6
	1914	194	188	6	96.9	3.1		1914	9,381	8,480	951	89.9	10.1
Proprietors and firm members.....	1910	43	43	.....	100.0	.....	16 years of age and over.....	1919	28,664	23,341	5,323	81.4	18.6
	1914	11	6	5	64.5	45.5		1914	9,376	8,426	950	89.9	10.1
Salaried officers of corporations.....	1919	234	229	5	97.9	2.1	Under 16 years of age.....	1919	57	49	8	86.0	14.0
	1914	43	43	1	100.0	.....		1914	5	4	1	80.0	20.0
Superintendents and managers.....	1919	625	609	16	97.4	2.6							
	1914	140	130	1	99.3	0.7							

## PHONOGRAPHS, GRAPHOPHONES, ETC.

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TABLE 25.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by **bold-faced** figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	28,721	28,997	25,642	26,754	27,581	28,269	29,601	24,021	24,369	31,248	33,334	34,656	35,180	68.2
Males.....	28,390	19,575	21,280	22,429	23,197	23,898	25,221	19,598	19,889	24,498	26,414	27,106	27,575	71.0
Females.....	5,331	4,422	4,302	4,385	4,384	4,371	4,380	4,423	4,480	6,750	6,920	7,550	7,605	56.9
1914.....	9,381	9,276	9,050	9,413	9,441	9,617	9,177	9,523	9,678	8,743	9,017	9,636	10,007	87.4
Illinois.....	1,919	1,245	1,391	1,476	1,574	1,647	1,724	1,974	2,150	2,205	2,401	2,583	2,649	47.0
Indiana.....	2,178	1,895	2,007	2,094	2,064	2,181	2,200	2,255	2,295	2,376	2,318	2,309	2,321	48.3
Michigan.....	708	713	649	637	655	719	766	796	831	878	910	986	1,038	61.5
New Jersey.....	12,266	9,890	10,707	11,426	11,786	12,175	12,516	12,250	12,161	12,722	13,424	14,121	14,024	70.7
New York.....	1,876	1,457	1,580	1,714	1,887	1,882	1,844	1,750	1,883	1,929	2,145	2,146	2,295	63.5
Ohio.....	1,424	908	982	1,102	1,212	1,278	1,301	1,546	1,585	1,595	1,753	1,851	1,885	48.2
Wisconsin.....	898	818	861	844	865	837	844	902	929	950	980	976	990	82.0

TABLE 26.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						
		44 and under.	Be- tween 44 and 48.	48. <sup>1</sup>	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.			44 and under.	Be- tween 44 and 48.	48. <sup>1</sup>	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.
United States:																	
1919.....	28,721	722	107	11,451	8,570	2,335	5,097	430									
1914.....	9,381	(*)	28	1,403	4,984	2,960	.....	.....									
Illinois:																	
1919.....	1,919	529	270	728	253	141	.....	.....									
1914.....	34	(*)	15	.....	2	17	.....	.....									
Indiana:																	
1919.....	2,178	.....	.....	195	941	707	835	.....									
Michigan:																	
1919.....	798	.....	.....	3	469	39	287	.....									
New Jersey:																	
1919.....									12,206	8	9,853	121	12	2,266	0	.....	.....
1914.....									7,735					4,903	2,772		
New York:																	
1919.....									1,876	122	95	1,179	310	82	88	.....	.....
1914.....									44	(*)	13	22	.....	.....	9		
Ohio:																	
1919.....									1,424	.....	11	923	.....	480	10		
1914.....									10	.....	.....	10	.....				
Wisconsin:																	
1919.....									898	.....	.....	.....		872	26		

<sup>1</sup> Includes 48 and under for 1914.

<sup>2</sup> Corresponding figures not available.

TABLE 27.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—									
	Establishments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.	6 to 20 wage earners, inclusive.	21 to 50 wage earners, inclusive.	51 to 100 wage earners, inclusive.	101 to 250 wage earners, inclusive.	251 to 500 wage earners, inclusive.	501 to 1,000 wage earners, inclusive.	Over 1,000 wage earners.	
United States....1919..	166	28,721	11	30	83	34	422	1,114	3,938	6	4,353	15,080
1914..	18	9,381	2	7	7	9	130	23	1,180	1	779	8,325
Illinois.....	36	1,919	1	7	21	10	135	181	4	324	1,258	—
Indiana.....	13	2,178	1	1	1	2	39	33	2	148	638	1,041
Michigan.....	10	798	2	2	7	4	46	1	1	56	344	278
New Jersey.....	15	12,268	1	2	8	3	102	1	72	300	1	618
New York.....	32	1,876	5	5	17	9	295	4	255	412	1	530
Ohio.....	20	1,424	2	5	15	5	51	2	118	381	1	769
Wisconsin.....	9	898	1	1	2	5	192	—	2	294	1	410

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TABLE 28.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919 AND 1914.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.		AVERAGE NUMBER OF WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
	1910	1914	1910	1914	1910	1914	1910	1914
All classes.....	166	18	28,721	9,381	\$158,547,870	\$27,115,916	\$98,807,665	\$20,067,876
Less than \$5,000.....	11	7			25,077	-----	7,618	-----
\$5,000 to \$20,000.....	18	3	44	15	203,567	30,828	122,091	25,010
\$20,000 to \$100,000.....	49	10	622	207	2,607,878	488,114	1,363,364	275,321
\$100,000 to \$500,000.....	61		2,764	-----	11,864,900	-----	5,943,827	-----
\$500,000 to \$1,000,000.....	13		1,946	-----	8,053,293	-----	4,089,778	-----
\$1,000,000 and over.....	24	15	23,338	19,158	135,893,155	126,596,974	87,280,987	19,767,545
PER CENT DISTRIBUTION.								
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	6.6	(2)	0.2	0.2	(2)	(2)	(2)	(2)
\$5,000 to \$20,000.....	10.8	16.7	0.2	0.2	0.1	0.1	0.1	0.1
\$20,000 to \$100,000.....	29.5	55.6	2.2	2.2	1.6	1.8	1.4	1.4
\$100,000 to \$500,000.....	30.7		9.6	-----	7.5	-----	6.0	-----
\$500,000 to \$1,000,000.....	7.8		0.8	-----	5.1	-----	4.1	-----
\$1,000,000 and over.....	14.5	127.8	81.3	197.6	85.7	198.1	88.3	198.6

<sup>1</sup> Includes the group "\$100,000 to \$500,000."

<sup>2</sup> Less than one-tenth of 1 per cent.

TABLE 29.—CHARACTER OF OWNERSHIP: 1919.

CHARACTER OF OWNERSHIP.	1919	Per cent of total.	CHARACTER OF OWNERSHIP.	1919	Per cent of total.	CHARACTER OF OWNERSHIP.	1919	Per cent of total.
Number of establishments.	166	100.0	Average number of wage earners.	28,721	100.0	Value of products	\$158,547,870	100.0
Individual	28	16.9	Individual	277	1.0	Individual	1,173,444	0.7
Corporation	132	79.5	Corporation	28,363	98.8	Corporation	150,736,680	98.8
All other	6	3.6	All other	81	0.3	All other	637,746	0.4

TABLE 30.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919 AND 1914.

POWER.	NUMBER OF ENGINES OR MOTORS.	HORSEPOWER.				POWER.	NUMBER OF ENGINES OR MOTORS.	HORSEPOWER.					
		Amount.		Per cent distribution.				Amount.		Per cent distribution.			
		1910	1914	1910	1914			1910	1914	1910	1914		
Primary power, total.....	2,456	143	40,168	11,688	100.0	100.0	Primary power—Continued.						
Owned.....	64	22	22,514	9,075	56.0	85.3	Rented.....	2,392	121	17,654	1,713		
Steam.....	54	20	21,973	9,865	54.7	84.4	Electric.....	2,392	121	17,649	1,713		
Engines.....	46	(1)	9,634	(1)	24.1	-----	Other.....	5	(2)	44.0	14.7		
Turbines.....	8	(1)	12,289	(1)	30.6	-----	Electric.....	3,641	574	32,193	7,400		
Internal-combustion engines.....	8	2	366	110	0.9	0.9	Rented.....	2,392	121	17,649	1,713		
Water wheels.....	2		175		0.4		Generated by establishments reporting.....	1,249	453	14,544	5,687		

<sup>1</sup> Figures not available.

<sup>a</sup> Less than one-tenth of 1 per cent.

TABLE 31.—FUEL CONSUMED, BY STATES: 1919.

STATE.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).	STATE.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
	Anthra- cite (tons, 2,240 pounds).	Bitumi- nous (tons, 2,000 pounds).						Anthra- cite (tons, 2,240 pounds).	Bitumi- nous (tons, 2,000 pounds).				
United States:													
1919.....	42,196	127,659											
1914.....	24,133	37,730	16	2,008	1,216	51,448	Michigan.....		5,457			12	389
						53,616	New Jersey.....	28,703	57,878		1,673	84	9,519
Illinois.....	157	7,813				15	New York.....	1,598	5,937			12	3,880
Indiana.....		18,087	16	23	4	260	Ohio.....		6,762			1,060	7,207
							Wisconsin.....		3,993			45	250

## SPECIAL STATISTICS.

**Products—Quantity and value.**—Table 32 shows the number and value of phonographs, graphophones, and talking machines, and records and blanks for 1919, 1914, and 1909, and the value only for 1904, as the number was not reported for that census. In 1919 complete instruments formed 57.8 per cent of the total value of products; records and blanks, 28.2; and parts and supplies, 10 per cent.

Parts and supplies are frequently sold to establishments engaged in the manufacture of the complete machines; therefore the figures presented include some duplication.

Of the 166 establishments reporting in 1919, the returns showed that 29 manufactured phonographs, graphophones, or talking machines and also made other products of the industry.

TABLE 32.—DETAILED STATISTICS OF QUANTITY AND VALUE: 1919, 1914, 1909, AND 1904.

PRODUCT.	1919	1914	1909	1904	PRODUCT.	1919	1914	1909	1904
Total value <sup>1</sup> .....	\$158,547,870	\$27,115,910	\$11,725,996	\$10,237,075	Needles:				
Phonographs, graphophones, and talking machines: <sup>2</sup>					Steel needles, value.....	\$1,359,754			
For disk records—					Other needles, value.....	\$249,248	{(4)}	(4)	(4)
Number.....	2,137,596				Parts and accessories, not included in finished instruments reported:				
Value.....	\$88,836,368				Cabinets, value.....	\$3,853,418	{(4)}	(4)	(4)
For cylinder records—					Other parts and accessories, value.....	\$10,515,739	\$350,935	\$844,631	
Number.....	65,957	514,154	344,081	{(4)}	Custom work and repairing, value.....	\$268,803	\$2,110		
Value.....	\$1,315,888	\$15,290,401	\$5,400,084	\$2,960,343	All other products, value.....	\$6,242,170	\$354,956	\$467,577	\$2,592,185
Dictating machines—									
Number.....	22,863								
Value.....	\$1,416,689								
Records and blanks:									
Number.....	106,996,510	27,221,200	27,183,950	{(4)}					
Value.....	\$44,689,795	\$11,111,413	\$5,007,104	\$4,678,547					
Disk records—									
Number.....	101,084,901	23,314,176	8,572,805	{(4)}					
Value.....	\$42,930,923	\$10,377,475	\$2,567,711						
Cylinder records and blanks—									
Number.....	5,911,549	3,907,114	18,611,154	{(4)}					
Value.....	\$1,758,872	\$733,943	\$2,439,387						

<sup>1</sup> In addition, in 1919, phonographs, and graphophones and parts, valued at \$7,173,143; in 1914, valued at \$66,531; and in 1909, valued at \$31,899 were made by establishments engaged primarily in the manufacture of products other than those covered by this industry designation.

<sup>2</sup> Not segregated, to avoid disclosure of individual operations.

<sup>3</sup> Figures not available.

<sup>4</sup> Included in "Parts and accessories."

<sup>5</sup> Included in "All other products."

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## GENERAL TABLE.

Comparative statistics can not be presented. Table 33 presents, for 1919, statistics in detail, for all states for which data can be shown without disclosing the operations of individual establishments.

TABLE 33.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.				
		Total	Proprietors and firm members	Salaried officers, superintendents, and managers	Clerks, etc.		Wage earners.				Total	16 and over.		Under 16.		Capital.				
					Male	Female	Average number	Number 15th day of—				Male	Female	Male	Female					
								Maximum month.	Minimum month.											
United States...	166	83,826	43	850	2,269	1,934	28,721	De 35,180	Ja 23,997	35,184	27,512	7,003	58	11	\$105,241,350	\$3,374,652	\$5,312,916			
Illinois.....	36	2,225	12	122	91	81	1,019	De 2,649	Ja 1,245	2,667	2,475	171	16	5	6,570,855	404,373	249,708			
Indiana.....	13	2,368	3	57	36	94	2,178	De 2,321	Ja 1,895	2,330	1,952	358	20	.....	4,786,616	305,533	87,677			
Michigan.....	10	929	1	46	42	42	798	De 1,026	Mh 637	1,019	907	106	6	.....	2,599,218	110,525	140,431			
New Jersey.....	15	13,603	.....	201	508	628	12,266	No 14,121	Ja 9,880	14,041	11,235	2,800	6	.....	44,615,018	928,044	1,486,180			
New York.....	32	2,408	13	162	208	140	1,876	De 2,295	Ja 1,457	2,270	1,878	387	5	.....	8,307,292	521,767	360,007			
Ohio.....	20	1,050	5	46	55	126	1,424	De 1,885	Ja 908	1,889	1,640	243	2	4	3,492,734	120,472	104,887			
Wisconsin.....	9	1,019	1	39	41	40	898	De 990	Ja 818	990	900	90	.....	.....	3,560,517	138,508	127,473			
All other states <sup>1</sup> ...	31	8,558	8	186	1,228	774	7,362	.....	.....	9,978	6,525	3,448	3	2	31,322,209	830,350	2,067,603			
EXPENSES—continued.																				
STATE.	Salaries and wages—Continued.	Wage earners.	For contract work.	Rent and taxes.	For materials.	Value of products.	Value added by manufacture.	Total.	POWER.						Primary horsepower.					
									Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>2</sup>	.....	.....	Owned.					
United States...	\$33,963,148	\$1,751,018	\$304,170	\$8,777,043	\$58,223,578	\$1,516,027	\$158,547,870	\$98,807,065	40,168	9,684	12,289	366	175	17,654	14,644	.....	.....	.....	Electric horsepower generated in establishments reporting.	
Illinois.....	2,210,093	63,401	68,386	380,062	7,007,723	88,535	12,841,682	5,745,424	1,873	250	.....	150	.....	.....	1,623	300	.....	.....		
Indiana.....	1,757,676	2,070	3,391	217,951	3,926,077	83,458	7,977,495	3,987,960	2,807	1,550	.....	1,107	.....	.....	1,107	1,028	.....	.....		
Michigan.....	668,203	712,169	2,669	114,676	1,382,731	40,112	4,230,492	2,557,649	611	300	.....	311	.....	.....	311	.....	.....	.....		
New Jersey.....	15,521,113	33,268	30,315	3,874,201	18,031,717	728,900	55,419,321	34,758,704	20,257	4,467	12,064	26	.....	.....	3,701	11,737	.....	.....		
New York.....	2,091,094	854,044	111,805	186,005	8,034,855	117,942	16,551,523	7,498,726	2,412	935	75	62	100	1,240	1,240	363	.....	.....		
Ohio.....	1,785,629	23,574	19,813	78,596	2,910,371	45,202	6,220,534	3,284,901	1,498	695	.....	25	.....	.....	778	60	.....	.....		
Wisconsin.....	930,276	.....	16,078	78,844	1,815,877	29,588	3,801,727	2,016,262	1,046	650	.....	75	.....	.....	321	75	.....	.....		
All other states <sup>1</sup> ...	8,988,164	62,480	46,224	4,366,028	12,064,227	382,830	51,446,096	38,998,030	9,664	837	.....	254	.....	.....	8,573	403	.....	.....	.....	

<sup>1</sup> All other states embrace: California, 2 establishments; Connecticut, 3; Iowa, 2; Massachusetts, 2; Minnesota, 4; Missouri, 2; Montana, 1; North Carolina, 2; Oregon, 2; Pennsylvania, 8; Rhode Island, 1; Tennessee, 1; Virginia, 1.

<sup>2</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

<sup>3</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

## THE RUBBER INDUSTRY.

### GENERAL STATISTICS.

**General character of the industry.**—This report presents statistics for establishments engaged primarily in the manufacture of rubber goods or products in which rubber is the principal material. The reports received were classified into three groups: (1) Establishments whose principal products were rubber belting and hose; (2) establishments making rubber boots and shoes; and (3) establishments engaged primarily in the manufacture of rubber tires, tubes, and other rubber goods.

Rubber products were also manufactured by establishments engaged primarily in the manufacture of other products to the value of \$9,134,403 in 1919, and \$752,503 in 1914.

**Importance and growth of the industry.**—Table 1 summarizes the statistics for each census since 1879, with percentages of increase for each five-year period. With few exceptions, increases are noticeable at each succeeding census. The exceptionally large increases, however, from 1914 to 1919, in salaries and wages, cost of materials, and value of products, are due largely to a general rise of prices and wages following the World War, and do not, therefore, fairly measure the growth of the industry for that period. A truer index of the growth of the industry is found in the increase of the average number of wage earners, and the primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes." "Contract work" or work performed by employees other than those in the plants reporting, has little significance, since it represents merely the methods of manufacture used by establishments, which vary from year to year.

**States, ranked by value of products.**—Ohio, as shown by Table 2, is preeminently the leading state in the manufacture of rubber goods, and has maintained this rank for the last several censuses. In 1919, this state reported 48.5 per cent of the total value of products and 40.2 per cent of the total number of wage earners. Massachusetts, second in importance, contributed only 13.3 per cent and 15.7 per cent, respectively, of these two items. Although 30 states reported rubber manufactures, the industry has become centralized in Ohio, Massachusetts, New Jersey, Connecticut, Michigan, Pennsylvania, Wisconsin, New York, Indiana, and Rhode Island, named in the order of their rank by value of products. Combined, these 10 states produced 96.6 per cent of the total value of

products for the industry in 1919 and employed 96.2 per cent of the total average number of wage earners.

**Persons engaged in the industry.**—The classification by sex, for 1919, was reported separately, but for 1914 and 1909, was obtained in the same manner as the distribution by age. The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures by states will be found in Table 16.

**Wage earners, by months.**—The statistics for wage earners in Table 4 shows the regularity or irregularity of employment, in accordance with the existing industrial conditions during the census year reported. The number employed in the industry during 1919 ranged from a maximum of 173,824 in October, to a minimum of 144,931 in January, the minimum number being equivalent to 83.4 per cent of the maximum. Figures for the principal states are shown separately for belting and hose, boots and shoes, and tires, tubes, and other rubber goods, while for the United States the number of males and females is also shown separately for 1919.

**Prevailing hours of labor.**—Table 5 shows a marked shortening of the working day for the industry since 1914. In that year only 17.8 per cent were reported as employed fewer than 54 hours per week, as against 82.7 per cent in 1919. In 1914 the "60" and "Over 60" groups constituted 6.9 per cent of the total wage earners, as compared with 3.7 per cent in 1919.

**Size of establishments, by average number of wage earners.**—Analysis of Table 6 discloses the significant fact that 181 establishments, or 37.9 per cent of the total number, employed fewer than 21 wage earners each, while only 1,361, or nine-tenths of 1 per cent, of the total number of wage earners were employed therein. On the other hand the class "Over 1,000 wage earners," comprising 35 establishments, employed 109,101 wage earners, or 68.8 per cent of the total average number, illustrating the extent of manufacturing operations in a few large establishments.

**Size of establishments, by value of products.**—At the census of 1909 and 1914, establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into groups of "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been

## MANUFACTURES.

compiled, however, from the returns for 1914. Table 7, therefore, gives combined figures for these two groups in the case of all items for 1909, and in the case of the average number of wage earners and the value added by manufacture for 1914. The statistics in the table show the degree of concentration of production in large establishments. In 1919 the group "\$1,000,000 and over," included 137 establishments, or 28.7 per cent of the total number for the industry; employed 145,665 wage earners, or 91.9 per cent of the total average number; and reported products to the value of \$1,070,086,951, or 94 per cent of the total value.

**Character of ownership.**—Table 8 emphasizes the predominance of the corporate form of ownership. Corporations owned 85.3 per cent of the total number of establishments for the industry in 1919, employed 99.5 per cent of the total average number of wage earners, and reported 99.5 per cent of the total value of products. During the five-year period 1914 to 1919 the average number of wage earners employed by corporations increased by 84,764, or 116.1 per cent;

and the value of products by \$835,019,019, or 280.3 per cent.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 9, there was an increase in the total horsepower for the industry of 230,344 horsepower, or 115.4 per cent, due in a large measure to rented power which increased by 159,677 horsepower, or 465.7 per cent. Owned power during the period increased by 70,667 horsepower, or 42.7 per cent.

**Fuel consumed.**—Table 10 shows the principal kinds of fuel used for the industry in 1919 and 1914. The principal fuel consumed in this industry is coal. In the consumption of anthracite coal New Jersey was the leading state. In the consumption of bituminous coal Ohio ranked first, followed by New Jersey and Massachusetts, while in the consumption of fuel oils Rhode Island was the leading state, followed by Ohio and New Jersey. Ohio was the only state that reported the consumption of any considerable quantity of gas.

## THE RUBBER INDUSTRY.

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TABLE I.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. <sup>1</sup>					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
<b>RUBBER GOODS—ALL BRANCHES.<sup>2</sup></b>													
Number of establishments.....	477	342	267	265	301	167	104	39.5	28.1	0.8	-12.0	80.2	60.6
Persons engaged in the industry.....	208,202	88,821	55,059	47,076	(8)	(8)	(8)	132.2	58.4	17.6	.....	.....	.....
Proprietors and firm members.....	98	87	108	105	(8)	(8)	(8)	132.2	15.5	-1.9	.....	.....	.....
Salaried employees.....	47,555	14,712	6,692	3,698	2,505	859	(8)	223.2	119.8	81.0	47.6	101.6	70.9
Wage earners (average number).....	158,549	74,022	49,264	43,573	36,566	20,152	11,789	114.2	50.3	12.3	20.0	81.5	70.9
Primary horsepower.....	429,887	199,543	122,436	86,808	71,189	27,125	(8)	115.4	63.0	41.0	22.0	182.4	.....
Capital.....	\$300,070,726	\$267,671,422	\$162,144,564	\$98,979,036	\$78,463,771	\$36,761,825	\$8,974,187	258.7	65.1	63.8	26.1	118.4	309.7
Salaries and wages.....	278,091,545	60,445,980	32,977,676	24,623,078	18,575,728	9,526,000	4,051,431	361.0	83.3	33.0	32.6	95.0	135.1
Salaries.....	85,228,456	16,278,578	7,840,700	4,533,012	3,149,155	(8)	(8)	423.6	107.6	72.7	44.1	.....	.....
Wages.....	193,763,089	44,167,402	25,136,976	20,084,166	15,426,573	(8)	(8)	338.7	75.7	25.2	30.2	.....	.....
Paid for contract work.....	3,876,318	408,851	25,090	70,188	62,861	(8)	(8)	790.8	1,529.0	-67.1	21.2	.....	.....
Rent and taxes (including internal revenue).....	44,445,822	2,226,322	851,213	468,127	653,321	(8)	(8)	1,896.4	161.5	.....	.....	.....	.....
Cost of materials.....	594,843,590	163,034,713	122,745,102	80,002,476	60,240,559	20,243,853	10,527,220	264.6	32.8	53.4	32.8	120.5	58.8
Value of products.....	1,138,216,019	300,993,798	197,394,688	148,015,391	99,880,693	42,853,817	25,309,648	278.2	52.5	33.4	48.2	133.1	69.3
Value added by manufacture <sup>3</sup> .....	543,872,429	137,959,088	74,649,580	68,012,915	39,640,134	16,609,964	8,782,428	294.2	84.8	9.8	71.6	138.7	80.1
<b>RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.<sup>2</sup></b>													
Number of establishments.....	437	301	227	224	261	139	93	45.2	32.6	1.3	-14.2	87.8	.....
Persons engaged in the industry.....	160,824	62,257	31,284	23,651	(8)	(8)	(8)	158.3	99.0	32.3	.....	.....	.....
Proprietors and firm members.....	97	55	102	103	(8)	(8)	(8)	242.0	156.4	97.2	28.5	104.8	.....
Salaried employees.....	40,879	11,052	4,661	2,364	1,825	619	(8)	138.6	89.4	25.2	3.8	122.2	35.8
Wage earners (average number).....	119,848	50,220	26,521	21,184	20,404	9,183	6,703	.....	.....	.....	.....	.....	.....
Primary horsepower.....	354,188	151,927	79,062	48,881	40,835	12,040	(8)	133.1	92.2	63.4	18.5	223.1	.....
Capital.....	\$782,037,722	\$199,183,036	\$98,507,225	\$46,297,537	\$39,302,353	\$13,703,757	\$8,284,187	292.9	102.2	112.8	17.8	186.8	118.1
Salaries and wages.....	231,756,285	43,905,632	10,525,961	12,269,631	10,297,400	4,516,266	2,450,672	427.9	124.9	59.1	19.2	128.0	84.3
Salaries.....	74,949,457	12,626,877	5,406,173	2,857,263	2,215,597	(8)	(8)	408.6	133.6	80.2	29.0	.....	.....
Wages.....	156,800,828	31,278,755	14,119,848	9,412,368	5,081,803	(8)	(8)	401.3	121.5	50.0	16.5	.....	.....
Paid for contract work.....	3,579,851	368,511	25,099	69,541	56,765	(8)	(8)	871.4	1,368.2	-63.9	22.5	.....	.....
Rent and taxes (including internal revenue).....	40,201,301	1,715,686	505,904	415,089	403,009	(8)	(8)	2,243.2	230.1	.....	.....	.....	.....
Cost of materials.....	525,686,300	126,111,673	82,191,821	38,912,226	33,482,314	11,118,528	9,641,167	316.8	53.4	111.2	16.2	201.3	15.3
Value of products.....	987,084,045	223,610,784	128,435,747	62,995,909	52,621,880	18,708,917	14,515,924	341.4	74.1	103.9	19.7	181.3	28.9
Value added by manufacture <sup>3</sup> .....	461,401,736	97,499,111	40,243,928	24,083,883	18,139,510	7,595,389	4,377,757	373.2	110.8	92.0	25.8	152.0	55.7
<b>BOOTS AND SHOES, RUBBER.</b>													
Number of establishments.....	25	23	22	22	22	11	0	.....	.....	.....	.....	.....	.....
Persons engaged in the industry.....	37,929	20,859	18,890	19,815	14,877	(8)	(8)	88.3	7.7	-4.0	33.2	.....	.....
Proprietors and firm members.....	1	2	2	2	3	(8)	(8)	202.6	29.8	56.6	70.2	271.5	.....
Salaried employees.....	5,053	1,870	1,287	822	488	130	(8)	75.9	0.1	-7.3	32.0	57.0	95.9
Wage earners (average number).....	32,875	18,627	17,612	18,991	14,391	9,134	4,662	.....	.....	.....	.....	.....	.....
Primary horsepower.....	49,400	24,621	25,903	20,084	25,017	9,543	(8)	100.6	-4.0	-0.7	4.3	162.2	.....
Capital.....	\$131,513,436	\$46,051,494	\$48,905,368	\$30,441,826	\$33,667,533	\$17,700,970	\$2,425,000	185.6	4.9	11.3	17.2	89.2	033.6
Salaries and wages.....	38,284,110	11,944,733	9,958,905	9,740,807	7,023,818	3,906,875	1,486,038	220.5	19.9	2.2	38.7	77.1	170.1
Salaries.....	7,401,388	1,058,279	1,414,743	874,001	597,239	(8)	(8)	278.0	38.4	61.9	46.3	.....	.....
Wages.....	30,882,722	9,985,451	8,544,252	8,806,806	6,420,579	(8)	(8)	209.2	16.9	-3.6	33.0	.....	.....
Paid for contract work.....	90,467	39,140	.....	5,132	.....	(8)	(8)	140.6	.....	.....	.....	.....	.....
Rent and taxes (including internal revenue).....	3,080,065	345,678	266,368	4,104,590	4,197,692	(8)	(8)	791.0	29.8	.....	.....	.....	.....
Cost of materials.....	50,346,880	23,950,036	29,577,176	32,000,464	22,682,543	11,650,787	6,023,053	110.2	-19.0	-7.6	41.1	94.7	93.4
Value of products.....	116,917,434	53,822,123	49,720,567	70,065,296	41,809,810	18,632,060	9,705,724	117.2	8.2	-29.0	70.6	120.5	92.0
Value added by manufacture <sup>3</sup> .....	66,570,554	28,866,087	20,143,301	38,064,832	18,407,270	6,931,273	3,682,671	122.9	48.3	-47.1	106.8	103.7	89.6
<b>BELTING AND HOSE, RUBBER.</b>													
Number of establishments.....	15	18	18	10	18	17	2	.....	.....	.....	.....	.....	.....
Persons engaged in the industry.....	7,449	6,205	5,876	4,210	1,971	(8)	(8)	20.0	5.6	39.0	113.6	.....	.....
Proprietors and firm members.....	1,623	1,000	744	512	197	110	(8)	43.8	46.5	45.3	159.3	75.1	.....
Salaried employees.....	5,826	5,115	5,131	3,693	1,771	1,835	364	13.9	-0.3	38.8	108.3	-3.3	404.1
Wage earners (average number).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Primary horsepower.....	26,299	22,995	17,471	12,343	5,917	4,942	(8)	14.4	31.6	41.5	182.1	7.6	.....
Capital.....	\$45,919,568	\$22,436,922	\$10,731,908	\$13,240,273	\$5,493,885	\$5,270,068	\$265,000	104.7	13.7	49.0	141.0	4.2	888.7
Salaries and wages.....	8,951,150	4,595,615	3,492,720	2,612,640	1,254,510	1,043,768	131,721	94.8	31.6	33.7	108.3	20.2	692.4
Salaries.....	2,877,611	1,693,422	1,019,844	807,648	336,310	(8)	(8)	69.9	66.0	26.3	140.1	.....	.....
Wages.....	6,073,539	2,902,193	2,472,876	1,804,992	918,191	(8)	(8)	109.3	17.4	37.0	99.6	.....	.....
Paid for contract work.....	.....	1,200	.....	1,515	6,098	(8)	(8)	.....	.....	.....	-75.1	.....	.....
Rent and taxes (including internal revenue).....	1,164,456	184,958	78,941	463,448	452,620	(8)	(8)	605.9	100.0	.....	.....	.....	.....
Cost of materials.....	18,310,401	12,967,004	10,976,105	9,089,786	4,075,702	3,479,538	863,000	41.2	18.1	20.8	123.0	17.1	303.2
Value of products.....	24,210,540	23,560,889	19,238,324	14,954,180	6,169,044	5,512,840	1,085,000	45.2	22.5	28.8	142.4	11.9	408.1
Value added by manufacture <sup>3</sup> .....	15,900,189	10,593,885	8,262,219	5,884,400	2,093,342	2,039,302	222,000	50.1	28.2	40.9	180.1	3.0	815.0

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.<sup>2</sup> Figures for 1904, 1899, 1889, and 1879 include data for establishments engaged in the manufacture of elastic woven goods and are not strictly comparable with figures for 1909, 1914, and 1919.<sup>3</sup> Figures not available.<sup>4</sup> Exclusive of internal revenue.<sup>5</sup> Value of products less cost of materials.

## MANUFACTURES.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Percent distribution.	Rank.	Amount (expressed in thousands).	Percent distribution.	Rank.	Amount (expressed in thousands).	Percent distribution.	Rank.			Average number.	Percent distribution.	Rank.	Amount (expressed in thousands).	Percent distribution.	Rank.	Amount (expressed in thousands).	Percent distribution.	Rank.
United States	477	188,519	100.0	...	\$1,138,210	100.0	...	\$543,872	100.0	...	Rhode Island	10	8,633	5.4	5	\$87,151	3.3	10	\$19,219	3.5	6
Ohio	97	63,766	40.2	1	552,330	48.5	1	252,329	46.4	1	Illinois	21	1,196	0.8	11	6,711	0.6	11	3,645	0.7	11
Massachusetts	58	24,909	15.7	2	151,544	13.3	2	79,065	14.5	2	Iowa	9	839	0.5	13	6,333	0.6	12	2,614	0.5	14
New Jersey	72	14,946	0.4	3	97,531	8.6	3	44,559	8.2	3	California	22	736	0.5	14	6,295	0.6	13	3,383	0.6	12
Connecticut	26	11,499	7.3	4	56,370	5.0	4	28,619	5.3	5	Missouri	8	1,044	0.7	12	4,984	0.4	15	2,009	0.4	15
Michigan	7	5,044	3.2	10	50,318	4.4	5	20,139	5.4	4	Georgia	3	158	0.1	19	931	0.1	18	274	0.1	20
Pennsylvania	32	6,408	4.0	6	39,783	3.5	6	18,385	3.4	7	Nebraska	3	124	0.1	21	930	0.1	19	353	0.1	19
Wisconsin	9	5,281	3.3	9	39,069	3.4	7	17,855	3.2	9	Texas	6	57	(1)	24	563	(1)	22	376	0.1	18
New York	43	6,395	4.0	7	37,541	3.3	8	17,856	3.3	10	Oklahoma	8	26	(1)	27	208	(1)	25	105	(1)	23
Indiana	16	5,803	3.7	8	37,270	3.3	9	18,165	3.3	8	All other states	27	1,787	1.1	...	11,911	1.0	...	5,602	1.0	...

<sup>1</sup> Less than one-tenth of 1 per cent.

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male	Female						Male	Female
RUBBER GOODS—ALL BRANCHES	1919	206,202	162,945	43,257	79.0	21.0	BOOTS AND SHOES, RUBBER...	1919	37,929	22,347	15,552	53.9	41.1
	1914	188,821	70,716	18,105	79.6	20.4		1914	20,359	12,407	7,952	60.9	30.1
	1909	56,050	42,702	13,357	76.2	23.8		1909	18,890	11,680	7,219	61.8	38.2
Proprietors and officials	1919	5,116	4,971	145	97.2	2.8	Proprietors and officials	1919	865	701	74	91.4	8.6
	1914	1,599	1,570	29	98.2	1.8		1914	160	155	5	96.9	3.1
	1909	1,118	1,094	24	97.9	2.1		1909	194	191	3	98.5	1.5
Proprietors and firm members	1919	98	91	7	92.9	7.1	Proprietors and firm members	1919	1	1	1	100.0	0
	1914	87	82	5	94.3	5.7		1914	2	2	2	100.0	0
	1909	103	93	10	90.3	9.7		1909	—	—	—	100.0	0
Salaried officers of corporations	1919	914	897	17	98.1	1.9	Salaried officers of corporations	1919	69	69	69	100.0	0
	1914	514	503	11	97.9	2.1		1914	44	44	44	100.0	0
	1909	348	344	4	98.9	1.1		1909	44	44	44	100.0	0
Superintendents and managers	1919	4,104	3,983	121	97.1	2.9	Superintendents and managers	1919	705	721	74	90.7	9.3
	1914	998	985	13	98.7	1.3		1914	114	109	5	95.6	4.4
	1909	607	657	10	98.5	1.5		1909	150	147	3	98.0	2.0
Clerks and other subordinate salaried employees	1919	42,537	29,209	13,238	68.9	31.1	Clerks and other subordinate salaried employees	1919	4,180	2,500	1,680	59.9	40.1
	1914	13,200	9,900	3,300	75.0	25.0		1914	1,512	1,056	456	69.8	30.2
	1909	5,677	4,256	1,421	75.0	25.0		1909	1,093	813	280	74.4	25.6
Wage earners (average number)	1919	168,549	128,075	29,874	81.2	18.8	Wage earners (average number)	1919	32,875	19,047	13,828	57.9	42.1
	1914	74,022	59,246	14,776	80.0	20.0		1914	18,637	11,196	7,491	59.9	40.1
	1909	49,264	37,352	11,912	75.8	24.2		1909	17,612	10,676	6,936	60.6	39.4
16 years of age and over	1919	150,911	127,871	29,020	81.5	18.5	16 years of age and over	1919	31,928	18,600	13,268	58.4	41.6
	1914	73,376	68,907	14,469	80.3	19.7		1914	18,440	11,094	7,346	60.2	39.8
	1909	48,393	36,903	11,490	76.3	23.7		1909	17,102	10,451	6,711	60.9	39.1
Under 16 years of age	1919	1,658	804	854	48.5	51.5	Under 16 years of age	1919	947	387	560	40.9	50.1
	1914	646	339	307	52.5	47.5		1914	247	102	145	41.3	58.7
	1909	871	449	422	51.5	48.5		1909	450	225	225	50.0	50.0
RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS	1919	160,824	134,261	26,563	83.5	16.5	BELTING AND HOSE, RUBBER...	1919	7,449	6,337	1,112	85.1	14.9
	1914	62,257	58,025	9,232	85.2	14.8		1914	6,205	5,284	921	85.2	14.8
	1909	31,284	25,728	5,556	82.2	17.8		1909	5,370	5,294	582	90.1	9.9
Proprietors and officials	1919	4,112	4,043	69	98.3	7.7	Proprietors and officials	1919	130	137	2	98.6	1.4
	1914	1,323	1,299	24	98.2	1.8		1914	116	116	116	100.0	0
	1909	830	809	21	97.5	2.5		1909	94	94	94	100.0	0
Proprietors and firm members	1919	97	90	7	92.8	7.2	Proprietors and firm members	1919	—	—	—	—	—
	1914	85	80	5	94.1	5.9		1914	—	—	—	—	—
	1909	102	92	10	90.2	9.8		1909	1	1	1	100.0	0
Salaried officers of corporations	1919	809	793	16	98.0	2.0	Salaried officers of corporations	1919	36	35	1	97.2	2.8
	1914	424	413	11	97.4	2.6		1914	46	46	46	100.0	0
	1909	272	268	4	98.5	1.5		1909	32	32	32	100.0	0
Superintendents and managers	1919	3,206	3,160	46	98.6	1.4	Superintendents and managers	1919	103	102	1	99.0	1.0
	1914	314	308	8	99.0	1.0		1914	70	70	70	100.0	0
	1909	456	449	7	98.5	1.5		1909	61	61	61	100.0	0
Clerks and other subordinate salaried employees	1919	36,864	25,712	11,152	69.7	30.3	Clerks and other subordinate salaried employees	1919	1,484	1,078	406	72.6	27.4
	1914	10,714	8,088	2,626	75.5	24.5		1914	974	756	218	77.6	22.4
	1909	3,933	2,927	1,006	74.4	25.6		1909	651	516	135	79.3	20.7
Wage earners (average number)	1919	119,848	104,506	15,342	87.2	12.8	Wage earners (average number)	1919	5,826	5,122	704	87.9	12.1
	1914	50,220	43,638	6,582	88.9	13.1		1914	5,115	4,412	703	86.3	13.7
	1909	26,521	21,992	4,529	82.9	17.1		1909	5,131	4,684	447	91.3	8.7
16 years of age and over	1919	119,193	104,119	15,074	87.4	12.6	16 years of age and over	1919	5,770	5,092	678	88.2	11.8
	1914	49,837	43,412	6,425	87.1	12.9		1914	5,099	4,401	698	86.3	13.7
	1909	26,137	21,788	4,349	88.4	16.6		1909	5,094	4,664	430	91.6	8.4
Under 16 years of age	1919	655	387	268	59.1	40.9	Under 16 years of age	1919	56	30	20	53.6	46.4
	1914	383	226	157	59.0	41.0		1914	18	11	5	68.8	31.2
	1909	384	204	180	53.1	46.9		1909	37	20	17	54.1	45.9

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TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY, STATE, AND CENSUS YEAR.	Average number employed during year.	NUMBER EMPLOYED ON THE 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum of maximum.
		Janu-	Febru-	March.	April.	May.	June.	July.	August.	Sept-	Octo-	Novem-	Decem-	
<b>RUBBER GOODS—ALL BRANCHES.</b>														
United States:														
1919.....	158,540	<i>144,931</i>	149,354	148,683	150,250	152,769	154,825	160,358	165,973	166,948	<b>173,824</b>	160,223	168,441	83.4
Males.....	128,675	<i>113,305</i>	118,024	118,861	121,429	124,802	127,211	131,989	137,379	138,098	<b>143,480</b>	133,243	136,299	79.0
Females.....	29,874	31,626	31,330	29,822	25,830	27,067	27,614	28,369	28,594	28,850	30,364	32,980	32,142	83.7
1914.....	74,022	70,690	74,187	77,750	80,967	82,193	78,650	74,148	68,414	70,412	70,411	69,051	70,570	83.2
<b>RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.</b>														
United States:														
1919.....	119,848	<i>104,075</i>	108,422	110,130	112,712	116,353	119,028	123,540	128,283	129,013	<b>134,423</b>	125,370	126,827	77.4
Males.....	104,506	<i>88,288</i>	93,152	95,430	98,170	102,072	104,536	108,831	113,468	114,046	<i>118,624</i>	107,513	109,942	74.4
Females.....	15,342	16,787	15,270	14,700	14,542	14,287	14,192	14,709	14,515	14,987	15,790	17,857	16,885	80.0
1914.....	50,220	47,201	50,788	54,078	57,317	58,246	54,624	51,414	46,617	46,620	45,831	44,674	45,271	76.5
California.....	513	<i>427</i>	452	458	405	481	480	513	540	572	561	<b>588</b>	580	72.6
Connecticut.....	5,060	4,670	4,728	4,756	<i>4,066</i>	4,874	5,035	5,125	4,952	5,092	5,407	<i>5,585</i>	5,830	80.0
Illinois.....	650	<i>592</i>	603	592	616	594	706	<i>752</i>	688	637	656	729	695	70.7
Indiana.....	2,917	<i>2,626</i>	3,018	3,129	3,004	2,963	2,716	2,708	2,845	2,922	3,008	<b>3,137</b>	2,871	83.7
Iowa.....	830	<i>640</i>	687	760	783	814	844	911	963	958	995	910	903	54.3
Massachusetts.....	9,406	<i>7,728</i>	7,959	8,842	9,517	9,532	9,212	9,353	9,586	9,692	10,115	<b>10,532</b>	10,804	71.5
Michigan.....	5,044	<i>4,184</i>	4,620	4,828	4,587	4,810	4,786	4,933	5,164	5,279	5,505	<i>5,814</i>	6,988	70.1
Missouri.....	621	<i>602</i>	670	580	543	<i>593</i>	621	608	630	607	650	644	629	80.4
New Jersey.....	12,353	<i>11,821</i>	11,885	12,152	11,880	12,204	12,232	12,355	12,455	12,054	13,250	<i>13,368</i>	84.7	
New York.....	5,370	4,776	4,958	4,774	5,019	5,115	5,441	5,387	5,399	5,673	6,018	6,263	76.2	
Ohio.....	63,637	<i>55,904</i>	56,340	56,747	58,382	61,200	63,049	67,157	71,484	71,834	<b>74,729</b>	63,864	64,354	72.1
Pennsylvania.....	4,880	<i>4,885</i>	4,488	4,445	4,713	4,767	4,752	4,916	4,983	5,002	5,315	<i>5,310</i>	5,595	78.4
Rhode Island.....	2,117	<i>2,685</i>	2,123	2,005	2,008	2,028	1,926	2,054	2,121	2,005	2,003	2,165	2,221	71.7
Wisconsin.....	4,557	4,302	4,397	4,466	4,618	4,498	4,451	4,450	4,556	4,657	4,686	4,818	4,785	89.3
<b>BOOTS AND SHOES, RUBBER.</b>														
United States:														
1919.....	32,875	34,591	<b>35,339</b>	33,977	32,455	31,298	<i>30,042</i>	31,304	31,561	31,578	32,953	34,145	34,657	88.7
Males.....	19,047	19,639	20,004	19,470	18,795	18,231	<i>18,098</i>	18,308	18,484	18,421	19,662	19,778	20,265	89.3
Females.....	13,828	14,952	15,335	14,498	13,060	13,067	<i>12,644</i>	12,996	13,077	13,157	13,801	14,367	14,392	81.8
1914.....	18,087	18,286	18,325	18,613	18,513	18,776	18,752	17,401	16,756	18,017	19,377	20,340	20,398	82.1
Connecticut.....	6,430	6,387	<b>6,600</b>	6,436	6,221	<i>6,209</i>	6,511	6,557	6,568	6,305	6,513	6,503	6,338	94.1
Massachusetts.....	13,062	14,303	14,413	13,707	12,834	12,203	<i>11,755</i>	11,835	12,042	12,136	13,081	13,979	14,435	81.4
<b>BELTING AND HOSE, RUBBER.</b>														
United States:														
1919.....	5,826	6,265	5,593	<i>4,579</i>	5,092	5,118	5,155	5,514	6,120	6,357	6,448	6,708	<b>6,957</b>	65.8
Males.....	5,122	5,378	4,808	<i>3,952</i>	4,464	4,499	4,577	4,850	5,427	5,031	5,774	5,952	<i>6,092</i>	64.0
Females.....	704	887	725	624	628	619	578	664	702	728	750	774	805	65.2
1914.....	5,115	5,103	5,014	5,068	5,137	5,171	5,274	5,243	5,041	5,188	5,183	5,040	4,910	93.1
Massachusetts.....	2,441	2,827	2,358	2,367	2,150	2,152	2,026	2,282	2,579	2,553	2,473	2,680	2,851	71.1
<i>States showing large proportion of females.</i>														
<b>RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.</b>														
Connecticut.....	857	921	875	862	836	853	800	804	748	820	873	898	934	16.9
Indiana.....	426	459	511	455	430	421	381	<i>569</i>	389	400	423	438	427	14.6
Massachusetts.....	1,354	1,232	1,198	1,290	1,269	1,284	1,304	1,361	1,345	1,396	1,496	<b>1,554</b>	1,549	14.4
New Jersey.....	1,637	1,630	1,664	1,654	1,624	1,627	1,645	1,651	1,665	1,498	1,634	1,673	1,691	13.3
New York.....	1,563	1,621	1,599	1,488	1,446	1,455	1,554	1,511	1,513	1,552	1,603	1,643	1,771	20.1
Ohio.....	6,223	6,276	6,177	5,821	5,754	<b>6,540</b>	5,572	5,726	5,985	6,125	6,481	<b>8,187</b>	7,022	9.8
Pennsylvania.....	735	694	692	753	763	765	771	747	<i>601</i>	695	714	777	788	15.1
Rhode Island.....	877	1,206	951	818	824	789	753	844	852	768	827	891	911	41.4
Wisconsin.....	572	668	562	628	595	554	552	538	541	563	569	600	600	12.6
<b>BOOTS AND SHOES, RUBBER.</b>														
Connecticut.....	2,894	2,980	3,084	2,917	2,750	<i>2,724</i>	2,839	2,911	2,895	2,862	2,943	2,956	2,867	44.9
Massachusetts.....	5,409	6,023	6,168	5,842	5,408	5,053	4,684	4,760	4,841	4,925	5,425	5,854	5,935	41.4

## MANUFACTURES.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

INDUSTRY AND STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48 <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
RUBBER Goods—ALL BRANCHES.....	1910	158,549	4,109	25,449	80,976	20,510	1,453	20,232	5,820	.....
	1914	74,022	(2)	(2)	3,216	9,959	23,909	31,739	4,750	389
	1909	49,284	(2)	(2)	163	1,201	15,555	23,457	8,881	7
RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.	1910	119,848	3,385	25,172	49,828	18,891	1,185	19,352	2,535	.....
	1914	50,220	(2)	(2)	3,216	9,621	8,019	25,427	3,548	389
California.....	1910	513	50	1	375	51	36	.....	.....	.....
	1914	220	(2)	(2)	55	137	34	.....	.....	.....
Connecticut.....	1910	5,060	.....	588	348	3,482	23	619	.....	.....
	1914	2,485	.....	.....	.....	366	184	1,568	307	.....
Illinois.....	1910	650	133	67	21	196	.....	233	.....	.....
	1914	563	(2)	(2)	2	38	7	488	28	.....
Indiana.....	1910	2,917	25	.....	57	85	.....	2,663	87	.....
	1914	1,499	.....	.....	.....	597	39	448	415	.....
Iowa.....	1910	830	.....	.....	385	64	150	240	.....	.....
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....
Massachusetts.....	1910	9,406	6	100	3,519	5,214	225	252	.....	.....
	1914	4,743	.....	.....	.....	240	143	4,348	6	.....
Michigan.....	1910	5,014	17	.....	4,845	48	2	132	.....	.....
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri.....	1910	621	21	6	8	540	.....	37	.....	.....
	1914	235	(2)	(2)	49	19	20	147	.....	.....
New Jersey.....	1910	12,353	205	.....	2,554	2,800	337	4,752	1,606	.....
	1914	6,316	(2)	(2)	10	1,139	41	3,666	1,460	.....
New York.....	1910	5,370	444	.....	2,634	1,164	1	584	543	.....
	1914	3,033	(2)	(2)	27	797	1,808	305	686	10
Ohio.....	1910	63,637	2,207	22,489	33,308	2,396	265	2,874	98	.....
	1914	21,705	(2)	(2)	3,057	5,818	99	12,297	64	340
Pennsylvania.....	1910	4,880	50	1,786	334	285	8	2,230	187	.....
	1914	3,172	(2)	(2)	12	417	2,704	39	.....	.....
Rhode Island.....	1910	2,117	.....	.....	752	1,279	86	756	41	.....
	1914	1,541	.....	.....	.....	.....	744	.....	.....	.....
Wisconsin.....	1910	4,557	153	.....	.....	17	.....	4,890	14	.....
	1914	1,637	.....	.....	.....	.....	.....	1,245	375	.....
BOOTS AND SHOES, RUBBER.	United States.....	32,875	724	.....	26,881	1,532	5	448	3,285	.....
	1914	18,687	.....	.....	338	14,850	3,490	.....	.....	.....
Connecticut.....	1910	6,430	.....	.....	6,439	.....	.....	.....	.....	.....
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....
Massachusetts.....	1910	13,062	.....	.....	13,056	6	.....	.....	.....	.....
	1914	8,087	.....	.....	.....	8,087	.....	.....	.....	.....
BELTING AND HOSE, RUBBER.	United States.....	5,826	.....	277	4,267	587	263	432	.....	.....
	1914	5,115	.....	.....	.....	1,091	2,822	1,202	.....	.....
Massachusetts.....	1910	2,441	.....	.....	2,118	323	.....	.....	.....	.....
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Includes 48 and under for 1914 and 1909.

\* Corresponding figures not available.

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TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

INDUSTRY AND STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—										
	Establishments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.	6 to 20 wage earners, inclusive.	21 to 50 wage earners, inclusive.	51 to 100 wage earners, inclusive.	101 to 250 wage earners, inclusive.	251 to 500 wage earners, inclusive.	501 to 1,000 wage earners, inclusive.	Over 1,000 wage earners.		
			Establishments.	Establishments.	Wage earners.	Establishments.	Establishments.	Wage earners.	Establishments.	Establishments.	Establishments.		
RUBBER GOODS—ALL BRANCHES.													
United States.....	477	158,549	10	78	197	93	1,164	76	2,659	58	10,076	40	
1914.....	342	74,022	10	58	167	75	868	60	1,978	33	5,944	29	
RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.													
United States.....	437	110,848	10	76	190	91	1,141	75	2,016	56	4,155	60	
California.....	20	513	3	6	16	5	62	5	205	2	173	1	
Connecticut.....	21	5,080	1	2	7	6	66	3	69	2	148	3	
Illinois.....	20	650	1	5	12	8	123	2	82	3	249	1	
Indiana.....	15	2,917	1	2	1	1	17	2	66	7	534	1	
Iowa.....	9	839	1	.....	3	48	1	24	1	37	2	325	1
Massachusetts.....	47	9,406	1	5	14	7	96	0	289	10	721	10	
Michigan.....	7	5,044	2	3	2	2	25	1	47	1	124	1	
Missouri.....	7	621	.....	2	14	3	97	.....	.....	1	152	1	
New Jersey.....	65	12,353	4	10	13	178	12	416	10	707	14	2,414	6
New York.....	40	5,370	2	11	26	5	60	6	105	3	233	7	
Ohio.....	96	63,637	13	38	22	249	20	737	6	469	13	2,011	12
Pennsylvania.....	31	4,880	11	26	4	48	2	84	7	458	2	463	1
Rhode Island.....	6	2,117	.....	.....	.....	1	44	1	85	2	335	.....	
Wisconsin.....	8	4,557	.....	.....	1	14	2	60	.....	1	153	.....	
BOOTS AND SHOES, RUBBER.													
United States.....	25	32,875	.....	2	7	1	6	.....	.....	.....	5	1,083	4
Connecticut.....	5	6,439	.....	.....	.....	1	6	.....	.....	.....	1	251	.....
Massachusetts.....	8	13,062	.....	.....	.....	.....	.....	.....	.....	.....	2	1,668	5
BELTING AND HOSE, RUBBER.													
United States.....	15	5,826	.....	.....	1	17	1	43	2	157	2	309	5
Massachusetts.....	3	2,441	.....	.....	.....	.....	.....	.....	.....	.....	1	323	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	880	1	1,238

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
	All classes.....	477	342	267	158,549	74,022	49,264	\$1,138,216,019	\$300,993,796	\$107,304,638	\$543,872,429	\$137,950,033
Less than \$5,000.....	15	26	20	12	32	24	39,084	44,221	53,582	16,992	35,941	24,688
\$5,000 to \$20,000.....	58	52	45	210	259	204	66,081	528,766	500,603	372,120	286,135	239,568
\$20,000 to \$100,000.....	90	84	65	1,181	1,435	987	4,808,270	4,212,430	3,340,262	1,735,765	1,938,851	1,421,341
\$100,000 to \$500,000.....	131	79	88	{ 5,535	13,965	9,072	{ 29,532,013	18,052,321	{ 84,000,274	{ 13,607,632	{ 19,250,001	{ 12,509,325
\$500,000 to \$1,000,000.....	46	38	38	{ 5,946	13,965	38,377	{ 33,043,670	26,017,050	{ 159,500,017	{ 13,828,527	{ 110,448,005	{ 60,454,614
\$1,000,000 and over.....	137	63	49	145,665	58,281	38,377	1,070,086,961	260,610,008	1,070,086,961	512,311,303	110,448,005	60,454,614
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	3.1	7.6	7.5	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
\$5,000 to \$20,000.....	12.2	15.2	16.9	0.1	0.8	0.4	0.1	0.2	0.3	0.1	0.2	0.3
\$20,000 to \$100,000.....	18.9	24.6	24.3	0.7	2.0	2.0	0.4	1.4	1.7	0.3	1.4	1.9
\$100,000 to \$500,000.....	27.5	23.1	23.1	{ 3.5	18.0	19.6	{ 2.6	6.2	8.9	{ 2.5	14.0	16.8
\$500,000 to \$1,000,000.....	9.6	11.1	8.8	{ 3.8	91.9	78.7	{ 77.9	94.0	83.3	{ 80.8	94.6	84.4
\$1,000,000 and over.....	28.7	18.4	18.4	91.9	78.7	77.9	94.0	83.3	80.8	94.6	84.4	81.0

<sup>(1)</sup>Less than one-tenth of 1 per cent.

## MANUFACTURES.

TABLE 8.—CHARACTER OF OWNERSHIP: 1919, 1914, AND 1909.

CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacturer.	CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacturer.
All classes.....	1919	477	158,549	\$1,138,216,019	\$543,872,429	Per cent distribution:					
	1914	342	74,022	300,963,796	137,959,083	Individual.....	1919	9.9	0.4	0.3	0.3
	1909	267	49,264	197,394,688	74,049,536		1914	11.7	1.0	0.8	0.6
Individual.....	1919	47	593	3,727,425	1,482,954	Corporation.....	1919	85.3	99.5	99.5	99.6
	1914	40	774	2,350,052	891,744		1914	82.7	98.7	99.0	99.1
	1909	44	685	2,365,077	844,030	All other.....	1909	73.4	98.1	98.3	98.3
Corporation.....	1919	407	157,804	1,132,958,162	541,582,216	1919	4.8	0.1	0.1	0.1	
	1914	283	73,040	297,939,143	136,729,985		1914	5.6	0.3	0.2	0.2
	1909	196	48,249	194,002,094	73,385,455		1909	10.1	0.5	0.5	0.6
All other.....	1919	23	152	1,530,432	807,259						
	1914	19	208	704,601	337,354						
	1909	27	230	937,467	419,051						

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	10,001	2,237	1,013	420,887	199,543	122,436	100.0	100.0	100.0
Owned.....				235,926	165,289	113,812	54.9	82.8	93.0
Steam <sup>1</sup> .....	641	627	559	226,539	158,547	106,648	52.7	70.5	87.1
Engines.....	555	556	529	120,453	(2)	(2)	28.0	(2)	(2)
Turbines.....	489	(2)	(2)	106,081	(2)	(2)	24.7	(2)	(2)
Internal-combustion engines.....	66	(2)	(2)	3,773	1,691	2,361	0.9	0.8	1.0
Water wheels, turbines, and motors.....	32	30	28	5,614	5,021	4,808	1.3	2.5	3.9
Rented.....	9,360	1,610	424	193,961	34,284	8,624	45.1	17.2	7.0
Electric.....	9,360	1,610	424	193,347	33,983	7,909	45.0	17.0	6.5
Other.....				614	301	715	0.1	0.2	0.6
Electric.....	16,654	6,176	1,502	356,024	114,803	27,591	100.0	100.0	100.0
Rented.....	9,360	1,610	424	193,961	33,983	7,909	54.5	29.6	28.7
Generated by establishments reporting.....	7,294	4,568	1,078	102,068	89,820	19,682	45.5	70.4	71.3

<sup>1</sup> Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.<sup>2</sup> Figures not available.

TABLE 10.—FUEL CONSUMED, BY STATES: 1919.

INDUSTRY AND STATE.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).				
ALL BRANCHES.						
United States.....	1919.....	137,318	2,149,811	5,316	315,100	52,535
	1914.....	131,038	1,004,761	3,131	18,843	(1)
RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.						
United States.....		84,915	1,928,116	3,651	180,630	43,146
California.....			75		5,190	188
Connecticut.....		2,170	65,020	4		15,544
Illinois.....		12	9,940	12		5,460
Indiana.....		150	84,849	75		97
Iowa.....			10,321		6,000	680
Massachusetts.....		853	90,702	2,680	156	4,139
Michigan.....			76,760			110
Missouri.....			3,219			107
New Jersey.....		43,853	183,375	825	33,321	2,235
Now York.....		26,423	54,902		250	1,507
Ohio.....		3,730	1,150,810			539
Pennsylvania.....		1,271	88,754		58,750	23,920
Rhode Island.....		57	9,815		24	3,254
Wisconsin.....		6,387	60,613		78,689	934
BOOTS AND SHOES, RUBBER.						
United States.....		19,853	136,967	1,391	98,009	6,190
Connecticut.....		1,161	32,536	136		681
Massachusetts.....		12,080	45,992		531	4,561
BELTING AND HOSE, RUBBER.						
United States.....		32,550	84,728	274	30,452	3,190
Massachusetts.....		250	40,205	274		6,690

<sup>1</sup> Included in figures for fuel oils.

## SPECIAL STATISTICS.

Certain additional detailed information concerning the quantity and value of products for the industry is collected by means of supplemental schedules and is summarized in the following tables.

The establishments in the industry were classified according to their product of chief value but in the manufacture of the various products there was much overlapping between the different branches of the industry. For example, there were only 15 establishments that reported the manufacture of belting and hose as a chief product, but 24 establishments classified as tires, tubes, and other rubber goods also reported some belting and hose.

Table 11 shows in comparative form for 1919 and

1914 the quantity and value of the products manufactured. As in 1914, tires were the chief product of the rubber industry, the output of this class being valued in 1919 at \$752,926,708 or 66.1 per cent of the total value of products for the industry, as compared with \$146,421,569, or 48.6 per cent, in 1914. The second most important branch of the industry, rubber boots and shoes, had an output in 1919 of \$90,779,-829, or 8 per cent of the total value of products for the industry, as compared with \$50,506,156, or 16.8 per cent, in 1914. The value of belting and hose produced in 1919 totaled \$49,434,534, or 4.3 per cent of the total value of products, as compared with a value of \$24,843,098, or 8.2 per cent, in 1914.

TABLE 11.—DETAILED STATISTICS OF QUANTITY AND VALUE: 1919 AND 1914.

PRODUCT.	1919	1914	PRODUCT.	1919	1914
	Number and amount.	Number and amount.		Number and amount.	Number and amount.
Total value <sup>1</sup> .....	\$1,138,218,019	\$300,993,796	Shoes, rubber:		
Tires:			Pairs.....	66,145,541	57,211,728
Pneumatic—			Value.....	\$64,713,182	\$37,858,222
Automobile—			Shoes, canvas, with rubber soles:		
Casings—			Pairs.....	21,034,664	(2)
Number.....	32,835,509	8,021,371	Value.....	\$25,176,684	(2)
Value.....	\$603,896,200	\$105,678,951	Heels, sold as such and on hand:		
Inner tubes—			Pairs.....	138,408,769	(2)
Number.....	33,255,410	7,907,351	Value.....	\$16,103,501	(2)
Value.....	\$81,312,576	\$20,101,084	Soles, including composition or fiber:		
Motorcycle and bicycle—			Pairs.....	9,777,085	(2)
Casings—			Value.....	\$2,455,306	(2)
Number.....	4,656,121		Rubberized fabrics, sold as such or on hand:		
Value.....	\$13,449,225		Automobile and carriage—		
Inner tubes—			Yards.....	40,750,500	(2)
Number.....	1,125,007	3,728,188	Value.....	\$10,696,647	(2)
Value.....	\$1,347,012	\$6,905,853	All other—		
Solid—			Yards.....	47,162,055	(2)
Truck—			Value.....	\$13,719,376	(2)
Number.....	1,454,807		Belting, value.....	\$29,436,242	\$7,989,405
Value.....	\$43,917,152		Hose, value.....	\$26,993,292	\$10,885,000
All other—			Packing, value.....	\$7,316,819	\$3,507,651
Number.....	6,878,650		Clothing, value.....	\$8,824,430	\$8,799,515
Value.....	\$9,004,543		Druggists' and stationers' supplies, value.....	\$15,801,892	\$7,511,755
Boots, rubber:			Hard rubber goods, value.....	\$34,383,231	(2)
Pairs.....	9,207,708	4,024,486	All other manufactures of rubber, value.....	\$80,719,808	\$41,384,086
Value.....	\$26,066,647	\$12,647,934	Reclaimed rubber, sold and on hand:		
			Pounds.....	125,758,892	(2)
			Value.....	\$20,173,040	\$11,134,958
			All other products, value.....	\$8,711,224	\$8,886,008

<sup>1</sup> In addition, products to the value of \$9,134,403 in 1919, and \$752,503 in 1914, were reported by establishments assigned to other classifications.

<sup>2</sup> Figures not available.

Table 12 summarizes by states the quantity and value of rubber tires produced in 1919. Ohio was the leading state in every branch of the tire industry, and in

the manufacture of automobile casings and inner tubes produced in number and value more than all the other states combined.

TABLE 12.—RUBBER TIRES—PRODUCTION, BY PRINCIPAL STATES: 1919.<sup>1</sup>

PRODUCT.	Connecticut.	Indiana.	Massachusetts.	New Jersey.	New York.	Ohio.	Pennsylvania.	Wisconsin.	All other states.
Tires:									
Pneumatic—									
Automobile—									
Casings—									
Number.....	(*)	308,670	2,576,982	2,080,887	673,101	10,726,902	1,334,591	1,722,640	4,411,626
Value.....	(*)	\$5,281,189	\$58,433,135	\$32,789,813	\$10,221,486	\$362,932,865	\$21,789,923	\$27,090,046	\$35,361,763
Inner tubes—									
Number.....	451,892	2,939,183	2,482,025	3,312,073	151,974	18,391,065	2,008,060	1,952,510	1,566,648
Value.....	\$1,415,822	\$7,975,250	\$7,576,809	\$10,324,950	\$460,870	\$41,430,711	\$4,316,647	\$3,943,952	\$3,888,550
Motorcycle and bicycle—									
Casings—									
Number.....									
Value.....									
Inner tubes—									
Number.....									
Value.....									
Solid—									
Truck—									
Number.....	(*)	(*)	(*)						
Value.....	(*)	(*)	(*)						
All other—									
Number.....		238,519							
Value.....		\$385,988							

<sup>1</sup> Michigan ranked as fifth state in value of products, but figures can not be shown without disclosing the operations of individual establishments.

<sup>2</sup> Included in "All other states" to avoid disclosure of individual operations.

Table 13 summarizes, by states for 1919, the quantity and value of boots, shoes, canvas shoes with rubber soles, heels, and soles. In the manufacture of rubber boots and shoes and canvas shoes with rubber soles Massachusetts was the leading state, producing 43.3 per cent of the rubber boots, 39.9 per cent of the rubber shoes, and 30 per cent of the canvas shoes with rubber soles. In the manufacture of heels and soles Ohio ranked first, producing 64.5 per cent of the heels and 21.2 per cent of the soles.

TABLE 13.—BOOTS AND SHOES, BY STATES: 1919.

PRODUCT.	Connecticut.	Massachusetts.	Ohio.	All other states.
Boots, rubber:				
Pairs.....	(*)	8,984,725	(*)	5,222,978
Value.....	(*)	\$8,704,637	(*)	\$17,272,010
Shoes, rubber:				
Pairs.....	14,897,840	26,404,108	(*)	24,843,524
Value.....	\$14,176,228	\$21,010,397	(*)	\$29,526,567
Shoes, canvas, with rubber soles:				
Pairs.....	(*)	6,314,107		14,720,557
Value.....	(*)	\$8,009,760		\$16,166,924
Heels, sold as such or on hand:				
Pairs.....	(*)	40,184,807	89,269,519	9,014,883
Value.....	(*)	\$4,634,794	\$10,266,011	\$1,203,696
Soles, including composition or fiber sold as such or on hand:				
Pairs.....	(*)	6,522,096	2,080,485	1,185,504
Value.....	(*)	\$778,837	\$1,350,727	\$325,742

<sup>1</sup> Included in "All other states" to avoid disclosure of individual operations.

Table 14 summarizes, by states for 1919, the value of rubberized fabrics and clothing, belting and hose, and druggists' and stationers' sundries and hard rubber goods. In the manufacture of rubberized fabrics and clothing Massachusetts was the leading state, produced 43.7 per cent of the total value of products; in the manufacture of belting and hose, New Jersey, the leading state, produced 38.8 per cent of the total value of products; and Ohio, the leading state in the manufacture of druggists' and stationers' sundries and hard rubber goods, produced 36.9 per cent of the total value of products.

TABLE 14.—MISCELLANEOUS RUBBER GOODS: 1919.

INDUSTRY AND STATE.	Value.	INDUSTRY AND STATE.	Value.
Rubberized fabrics and clothing:		Druggists' and stationers' sundries and hard rubber goods:	
Massachusetts.....	\$14,539,550	Ohio.....	\$18,513,193
Ohio.....	5,178,885	New Jersey.....	16,002,783
Connecticut.....	4,759,384	New York.....	5,845,340
New York.....	2,772,629	Connecticut.....	3,167,089
Missouri.....	393,692	Massachusetts.....	2,336,931
Pennsylvania.....	346,338	Pennsylvania.....	1,497,623
All other states.....	254,450	Indiana.....	663,430
Belting and hose, rubber:		Illinois.....	389,556
New Jersey.....	4,986,625	All other states.....	1,849,178
Ohio.....	19,176,384		
Massachusetts.....	14,046,539		
New York.....	5,760,923		
California.....	4,017,232		
All other states.....	973,168		
	5,480,288		

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## GENERAL TABLES.

Table 15 gives for 1919, 1914, and 1909, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the rubber industry combined, and for each of its branches.

Table 16 presents, for 1919, statistics in detail for the industry as a whole, and for each of the groups, such states as can be shown separately without the possibility of disclosing the operations of individual establishments.

TABLE 15.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

## MANUFACTURES.

TABLE 16.—DETAILED STATEMENT,

INDUSTRY AND STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salesmen, officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.	
RUBBER GOODS—ALL BRANCHES.														
1 United States.....	477	206,202	98	5,018	23,290	18,238	158,549	Oc 173,824 Ja 144,931	179,753	146,912	31,030	901	909	Dollars. 960,070,726
RUBBER TIRES, TUBES, AND OTHER RUBBER GOODS.														
2 United States.....	437	160,824	97	4,016	25,712	11,152	110,848	Oc 134,423 Ja 104,075	138,081	121,006	16,330	454	201	782,637,722
3 California.....	20	752	10	71	66	92	513	No 588 Ja 427	627	555	72	—	—	5,315,252
4 Connecticut.....	6,437	4	325	742	306	5,060	De 5,830 Ap 4,666	5,830	4,823	917	73	17	—	35,224,104
5 Georgia.....	3	185	—	12	7	8	158	Au 199 Ja 105	193	177	16	—	—	1,127,573
6 Illinois.....	20	795	5	49	52	39	660	Jy 752 Ja 532	750	581	165	3	1	2,790,374
7 Indiana.....	15	3,730	1	174	440	189	2,917	No 3,137 Ja 2,626	2,868	2,441	424	—	3	25,182,334
8 Iowa.....	9	977	1	40	59	38	839	Oc 995 Ja 540	1,008	940	68	—	—	9,028,488
9 Massachusetts.....	47	12,185	7	530	1,404	838	9,400	De 10,804 Ja 7,728	10,964	9,830	1,520	02	46	64,948,481
10 Michigan.....	7	7,053	4	173	1,481	351	5,044	De 5,968 Ja 4,184	5,881	5,439	438	4	—	57,418,022
11 Missouri.....	7	715	1	35	31	27	621	Fo 670 My 539	629	391	234	3	1	2,580,742
12 Nebraska.....	3	173	—	14	23	12	124	Au 168 Ja 89	110	119	—	—	—	1,815,281
13 New Jersey.....	65	15,263	8	468	1,010	824	12,363	De 13,303 Ja 11,321	13,328	11,518	1,661	110	39	57,638,272
14 New York.....	40	6,213	15	186	382	260	5,370	De 6,263 Mh 4,774	6,208	4,476	1,751	19	22	28,043,157
15 Ohio.....	96	89,774	15	1,246	17,805	7,068	63,037	Oc 74,720 Ja 53,904	75,300	68,550	6,705	45	—	308,125,426
16 Oklahoma.....	8	67	—	9	25	7	26	Oc 71 Ja 8	65	36	20	—	—	610,444
17 Pennsylvania.....	31	5,879	8	269	450	282	4,880	De 5,595 Ja 4,385	5,549	4,668	740	90	51	37,090,301
18 Rhode Island.....	6	2,810	—	173	351	175	2,117	Ja 2,685 Je 1,926	2,216	1,280	815	25	96	20,076,684
19 Texas.....	6	99	8	14	13	7	57	Se 90 Fo 19	68	64	4	—	—	505,139
20 Wisconsin.....	8	5,611	—	70	579	399	4,557	No 4,818 Ja 4,302	4,809	4,189	585	20	15	25,011,641
21 All other states <sup>4</sup> .....	25	2,100	10	101	180	230	1,519	—	1,009	1,423	180	—	—	8,597,107
BOOTS AND SHOES, RUBBER.														
22 United States.....	25	37,920	1	804	2,509	1,680	32,875	Fe 35,339 Je 30,642	34,723	19,840	13,877	411	580	131,513,436
23 Connecticut.....	5	7,390	—	245	361	345	6,439	Fe 6,000 My 6,209	6,338	3,370	2,689	92	178	20,235,801
24 Massachusetts.....	8	15,195	—	320	1,078	735	13,062	De 14,435 Je 11,755	14,441	8,314	5,752	186	180	43,582,806
25 All other states <sup>5</sup> .....	12	15,344	1	299	1,070	600	13,374	—	13,944	8,150	5,436	133	219	58,604,329
BELTING AND HOSE, RUBBER.														
26 United States.....	15	7,449	—	139	1,078	400	5,826	De 6,957 Mh 4,576	6,954	6,057	829	30	32	45,919,568
27 Massachusetts.....	8	2,936	—	35	279	181	2,441	De 2,851 Je 2,026	2,851	2,315	487	22	27	17,054,898
28 All other states <sup>6</sup> .....	12	4,513	—	104	709	225	3,385	—	4,103	3,742	342	14	5	28,264,070

<sup>1</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).<sup>2</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).<sup>3</sup> Same number reported for one or more other months.

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BY STATES: 1919.

EXPENSES.												POWER.									
Salaries and wages.			Rent and taxes.			For materials.			Value of products.	Value added by manufacturer.	Primary horsepower.					Electric horsepower generated in establishments reporting.					
Officials.	Clerks, etc.	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.			Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>a</sup>							
Dollars. 19,563,363	Dollars. 65,065,093	Dollars. 193,763,089	Dollars. 3,076,318	Dollars. 6,540,454	Dollars. 37,896,368	Dollars. 579,474,754	Dollars. 14,868,836	Dollars. 1,138,216,010	Dollars. 543,872,429	Dollars. 429,887	120,453	106,081	3,773	5,014	193,961	102,063	1				
16,249,745	58,690,712	156,806,828	3,579,851	6,486,700	33,714,601	513,080,366	12,605,943	987,088,045	461,401,736	354,188	93,133	1010,32	3,367	2,534	153,828	151,153	2				
153,363	150,893	520,209	2,121	20,550	56,471	1,039,492	55,809	4,940,513	2,042,212	1,770	30	-----	-----	-----	1,740	-----	3				
1,114,310	1,335,760	5,405,006	327	37,448	1,155,116	17,047,075	584,542	33,927,013	15,095,396	11,474	5,408	1,100	-----	315	4,501	4,057	4				
32,793	34,039	157,314	-----	1,100	4,706	640,024	17,036	381,300	273,700	846	-----	4	-----	842	-----	5					
260,824	157,785	676,524	-----	11,073	115,225	1,892,770	90,730	4,134,804	2,161,304	2,400	450	10	-----	2,000	-----	6					
535,300	796,785	3,017,677	-----	4,565	475,057	11,000,824	415,052	20,883,668	8,806,892	11,696	3,885	2,125	-----	600	5,110	1,540	7				
187,077	105,023	1,008,686	11,550	13,321	283,640	3,598,237	121,406	6,333,253	2,613,520	4,293	250	-----	-----	4,043	-----	8					
1,901,290	3,600,645	11,682,183	667	48,266	2,852,417	45,889,038	1,180,045	93,376,505	46,300,522	34,358	9,253	825	57	940	23,283	905	9				
803,667	2,449,238	7,181,160	-----	3,780	2,003,780	20,747,228	432,880	50,318,116	29,138,602	8,752	2,025	4,500	-----	2,227	6,435	10					
86,018	63,448	541,079	6,000	14,321	16,905	2,423,297	55,406	3,885,295	1,386,633	2,168	250	-----	-----	1,918	-----	11					
45,776	37,773	170,093	-----	5,516	541,596	30,222	930,370	352,552	1,375	-----	-----	-----	1,375	-----	12						
1,968,540	2,849,995	14,299,030	17,293	21,794	2,893,021	44,753,079	1,582,502	84,129,058	37,762,877	40,097	21,126	4,107	400	350	14,114	11,076	13				
997,189	602,323	5,063,127	860,514	118,072	1,267,303	10,351,555	581,798	33,033,202	16,099,849	21,778	5,505	1,817	-----	14,456	4,956	14					
6,061,668	42,765,855	90,981,414	2,576,350	6,122,977	18,583,624	203,287,709	6,074,822	551,118,488	251,755,957	170,402	32,043	77,657	1,702	329	58,581	115,008	15				
9,915	18,205	26,543	-----	2,503	5,182	100,838	1,427	207,726	105,461	164	125	26	-----	13	-----	16					
831,644	829,370	5,804,082	15,160	24,141	1,717,346	10,266,485	500,202	35,792,006	10,019,319	17,414	6,801	1,960	1,078	7,515	3,598	17					
500,026	648,756	1,947,067	57,889	24,000	509,322	7,290,161	299,480	15,887,006	8,288,305	5,303	1,735	350	-----	3,718	816	18					
30,564	22,620	58,807	-----	3,326	5,150	186,665	5,089	508,181	375,817	441	412	29	-----	6	19	6					
333,438	1,148,071	5,672,011	25,971	1,710	1,101,509	19,538,870	380,887	36,668,085	16,448,928	12,607	2,895	6,885	-----	2,787	1,800	20					
398,343	623,222	1,633,850	-----	15,753	507,291	5,373,423	174,442	10,341,895	4,704,030	6,330	850	-----	-----	5,480	-----	21					
2,481,481	4,919,907	30,882,722	96,407	58,134	8,021,931	49,025,640	1,321,240	116,917,434	66,570,554	49,400	21,070	150	-----	2,462	25,718	2,602	22				
544,000	739,740	5,741,236	-----	-----	509,145	9,287,388	240,159	22,451,339	12,923,792	10,297	6,125	150	-----	1,212	2,810	1,623	23				
912,428	2,207,568	12,762,708	96,407	17,584	897,013	17,069,098	552,041	44,307,061	26,080,822	21,609	5,970	-----	-----	15,039	482	24					
1,025,053	1,972,601	12,378,780	40,550	1,615,773	22,669,154	520,040	50,158,134	26,969,040	17,494	8,975	-----	1,250	7,269	497	25						
832,137	2,045,474	6,073,539	-----	4,620	1,159,830	17,308,748	941,653	34,210,540	15,900,130	26,299	6,255	4,605	400	618	14,415	8,308	26				
259,048	642,415	2,302,529	-----	4,620	642,831	9,980,739	558,185	13,859,748	6,077,291	10,035	880	4,355	-----	4,800	6,328	27					
573,089	1,403,059	3,771,010	-----	-----	-----	-----	-----	20,350,702	6,822,848	16,264	5,375	250	406	618	9,616	1,980	28				

<sup>a</sup> All other states embrace: Colorado, 4 establishments; Delaware, 1; Kansas, 3; Kentucky, 1; Louisiana, 1; Maryland, 2; Minnesota, 3; North Carolina, 2; Oregon, 2; Washington, 1; West Virginia, 2.

<sup>b</sup> All other states embrace: Indiana, 1 establishment; Maine, 1; Missouri, 1; New Jersey, 2; New York, 1; Pennsylvania, 1; Rhode Island, 4; Wisconsin, 1.

\* All other states embrace: California, 2 establishments; Delaware, 1; Illinois, 1; New Jersey, 5; New York, 2; Ohio, 1.

## SHIPBUILDING, INCLUDING BOAT BUILDING.

### GENERAL STATISTICS.

**General character of the industry.**—The statistics for this industry cover establishments engaged in the construction and repair of vessels, ships, and boats of all classes. Data for shipyards operated by the Federal Government were also collected but are shown separately and are not included in the totals for the industry. A number of establishments, not properly classified with the shipbuilding industry, also incidentally built or repaired ships or boats, but the amount contributed to the industry by these establishments was small, and unless so stated the tables do not include statistics relating to them. As generally used in this report the term "ship" or "vessel" refers to craft of 5 gross tons measurement or over, while craft under 5 tons are designated as boats.

In compiling the statistics for the shipbuilding industry the Bureau of the Census distinguishes between establishments in the steel and concrete ship building branch of the industry and those engaged in wooden-ship building and boat building. The first group is divided into (1) establishments doing construction work on steel and concrete vessels of 5 gross tons or over, and (2) establishments doing repair work only on steel and concrete vessels. The second group, wooden-ship building and boat building, is divided into four classes: (1) Establishments engaged in new construction work on wooden vessels of 5 gross tons or over; (2) establishments doing repair work only on wooden vessels; (3) establishments engaged mainly in building or repairing boats of less than 5 gross tons; and (4) establishments making masts, spars, oars, and ship accessories and those engaged in rigging vessels. These divisions and groups are used for purposes of comparison, as they are as nearly as possible the same for all censuses.

**Summary of the industry, by classes.**—A marked feature of the industry, as shown by Table 1, is the large amount of capital invested, which increased from \$156,059,938 in 1914 to \$1,389,447,820 in 1919, or an average per establishment of \$1,292,510 in 1919 as compared with \$136,059 in 1914. By far the larger proportion of this increased capital was invested in establishments engaged in the construction of steel vessels. This vast sum was mostly contributed by the Federal Government for the purposes of facilitating rapid shipbuilding to provide for military exigencies growing out of the World War. The value of work done in 1919 exceeded the amount of capital invested by \$232,913,441, a condition which has not existed since 1889. In 1919 about 90 per cent

of the total value of products was contributed by plants engaged in the construction and repair of steel vessels, as compared with 77.8 per cent in 1916 and 74.7 per cent in 1914. The large increases in wages, cost of materials, and the value of products, as presented in this table, are largely due to the World War, and therefore can not properly be used to measure the growth of the shipbuilding industry during the census period 1914 to 1919. A truer index of the condition is found in the average number of wage earners and primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes."

**Comparative summary.**—Table 2 summarizes the statistics for each census since 1904, and gives percentages of increase for each period. While there was a decrease in the number of establishments at each census since 1909, all of the principal items show decided increases for this period. During the 15 years covered by the table the average number of wage earners increased 336,692, or 663.4 per cent.

**Comparative summary, Government shipyards.**—From 1916 to 1919, as shown by Table 3, the number of shipbuilding plants owned and operated by the Federal Government decreased from 30 to 22. This decrease resulted from the fact that certain of the plants which were operated by the Government in 1916 were abandoned prior to 1919. They were located in the Middle West and operated for the purpose of building and repairing unrigged craft to be used in Government work on the Ohio, Mississippi, and other rivers. In 1919, 13 of the Government plants were operated by the Office of Chief of Engineers of the War Department, and 9 by the Bureau of Yards and Docks of the Navy Department.

This table brings out the fact that between 1916 and 1919 there was a great increase in the construction of steel vessels propelled by steam, and wooden motor and unrigged vessels, and a decrease in wooden steam vessels. It also shows that the Government did not construct any steel unrigged vessels in 1919.

The work performed at the several Government shipyards consisted of the repair of naval vessels, the construction of ships, boats, signal apparatus, and buoy lanterns, the building and repair of machinery, etc. It was impossible to make a separate presentation of each kind of work done and the figures presented in Table 3 include, therefore, statistics that do not properly pertain to shipbuilding or repairing. The value of "All other products, including repair

work," amounted to \$187,819,607 in 1919 and represented 78.4 per cent of the total value of work done during the year. The corresponding percentages for 1909, 1914, and 1916, were 91.8, 83.6, and 76.3, respectively.

The Government shipyards did a large amount of construction work in 1919 on vessels not launched during the year. The value of such work amounted to \$26,005,758, nearly all of which was done on steel vessels consisting of battleships, destroyers, and submarines.

**Principal states, ranked by value of products.**—The rank of the several states by value of products, as shown in Table 4, has changed materially since 1914. New Jersey advanced from second to first position, reporting 14.7 per cent of the total value of products, while New York, first in 1914, dropped to fifth position. The Pacific Coast states, California and Washington, ranking fifth and ninth in 1914, advanced to third and fourth, respectively, in 1919. It should be noted that a number of states for which data can not be shown without disclosing individual operations ranked much higher than some named in this table. The first eight states, which include two that can not be shown, employed 71.9 per cent of the total number of wage earners, and reported 72.5 per cent of the total value of products.

**Persons engaged in the industry.**—The age classification of the average number of wage earners in Table 5 is an estimate obtained by the method described in the "Explanation of terms," page 2. The classification by sex for 1919 was reported separately, but for 1916, 1914, and 1909, was obtained in the same manner as the distribution by age. Figures in detail will be found in Table 32.

**Wage earners, by months, for selected states.**—As shown by Table 6, the number of wage earners employed in the industry month by month in 1919 ranged from a maximum of 444,683 in January to a minimum of 301,172 in November, the minimum number being equivalent to 67.7 per cent of the maximum. Figures are given for all states reporting an average of over 5,000 wage earners, that can be shown without disclosing individual operations, while for the United States the number of males and females is also shown.

**Average number of wage earners, by prevailing hours of labor per week, for selected states.**—Table 7 indicates a marked shortening of the working day for the shipbuilding industry since 1914. In that year only 33.1 per cent of the wage earners were reported as employed 48 hours and under as compared with 98.3 per cent in 1919.

**Size of establishments, by average number of wage earners, for selected states.**—Analysis of Table 8 brings out the fact that in 1919, 376,152 wage earners, or

97.1 per cent of the total number, were reported by establishments which employed more than 100 wage earners, illustrating the concentration of the industry in a few large establishments. In wooden shipbuilding, the predominance of small establishments is shown by the fact that 498, or 54.5 per cent of the total establishments employed fewer than 6 wage earners each and reported only 1.7 per cent of the total number of wage earners.

**Size of establishments, by value of products.**—At the censuses of 1916 and 1914 establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been compiled, however, from the returns of 1914. The table, therefore, gives combined figures for these two groups in the case of all items for 1916, and in the case of average number of wage earners and value added by manufacture for 1914. The statistics in Table 9 show the degree of concentration of production in large establishments. In 1919 the group "\$1,000,000 and over" included 143 establishments, or 13.3 per cent of the total for the industry, employed 360,993 wage earners, or 93.2 per cent of the total average number, and reported products to the value of \$1,529,837,920, or 94.3 per cent of the total value of products.

**Character of ownership, by states.**—The preponderance of corporate ownership in "shipbuilding, steel," is clearly brought out in Table 10. Corporations owned 91.4 per cent of the number of establishments in this branch of the industry in 1919, and reported 99.9 per cent of both the average number of wage earners and total value of products. From 1916 to 1919 the average number of wage earners in corporations in the industry as a whole, increased 313,991, or 472.6 per cent, and the value of products \$1,426,409,136, or 832.4 per cent.

**Number and horsepower of types of prime movers.**—From 1914 to 1919, as shown by Table 11, there was an increase in the total horsepower for the industry of 438,378 horsepower, or 380.1 per cent, the greater part of which was due to an increase of 394,896 horsepower, or 1,312.6 per cent, in rented electric power, as compared with an increase of 43,261, or 50.9 per cent, in power owned. Of the total primary horsepower reported in 1919, 476,135 horsepower, or 86 per cent, was utilized in the form of electric energy.

**Fuel consumed, by states.**—Table 12 shows the principal kinds of fuel used for the industry in 1919 and 1914, and also gives separately the amounts consumed in states requiring considerable quantities of fuel for manufacturing purposes.

## MANUFACTURES.

TABLE 1.—SUMMARY OF THE INDUSTRY, BY CLASSES: 1919, 1916, AND 1914.

	Census year.	Aggregate.	SHIPBUILDING, INCLUDING BOAT BUILDING.					Wooden, including boat building.		
			Steel vessels.			Vessels.		Boats under 5 tons, con- struction and repair.	Masts, spars, oars, and rigging of vessels.	
			Total.	New con- struction of vessels of 5 tons and over.	Repair work only.	Total.	New con- struction of vessels of 5 tons and over.			
Number of establishments.....	1919	1,075	162	117	45	913	315	277	294	27
1916	1,137	109	72	37	1,028	339	248	416	25	
1914	1,147	70	46	1,33	1,068	273	179	588	28	
Persons engaged.....	1919	413,236	365,875	344,809	20,966	47,361	36,672	8,554	1,951	184
1916	78,333	59,802	51,230	8,572	18,531	10,395	4,932	2,949	255	
1914	48,667	35,604	29,848	5,816	18,003	5,472	4,571	2,749	211	
Proprietors and firm members.....	1919	810	21	10	11	795	210	245	313	27
1916	1,103	35	15	20	1,068	364	216	461	27	
1914	1,182	24	7	17	1,168	332	152	657	27	
Salaried employees.....	1919	24,974	21,810	20,621	1,219	3,134	2,310	579	188	27
1916	4,733	3,530	3,073	457	1,203	667	311	213	12	
1914	2,986	2,132	1,699	433	854	338	310	197	9	
Wage earners (average number).....	1919	387,446	314,014	324,278	19,736	43,492	34,122	7,730	1,460	130
1916	72,497	66,237	48,142	8,095	16,260	9,304	4,405	2,275	216	
1914	44,489	33,608	28,142	5,806	10,981	4,802	4,109	1,895	175	
Primary horsepower <sup>2</sup> .....	1919	553,711	475,567	443,384	32,183	78,144	59,503	14,075	3,370	506
1914	115,333	83,708	63,888	19,818	31,627	14,148	11,180	5,770	529	
Capital.....	1919	\$1,389,447,820	\$1,268,610,254	\$1,216,322,883	\$52,317,371	\$120,807,566	\$93,372,019	\$22,084,471	\$1,702,460	\$558,586
1916	243,217,869	209,517,598	190,391,607	19,120,291	33,699,971	17,391,882	10,204,019	5,403,418	697,622	
1914	156,059,938	132,712,414	112,030,389	20,082,025	23,347,524	9,679,832	8,946,660	4,614,178	200,854	
Salaries and wages.....	1919	602,561,142	595,034,683	557,452,512	88,181,571	66,027,050	51,851,108	12,735,307	2,112,438	225,206
1916	67,526,623	53,367,771	43,816,888	9,550,833	14,188,852	8,283,659	3,830,740	1,801,039	183,414	
1914	37,689,665	28,752,404	23,520,313	5,232,091	8,097,561	3,940,934	3,800,143	1,502,905	133,579	
Salaries.....	1919	65,114,494	57,261,507	54,014,657	3,216,850	7,852,987	5,981,120	1,448,902	382,200	60,759
1916	6,950,722	5,317,648	4,672,207	675,441	1,603,074	915,818	437,173	234,205	10,078	
1914	4,758,809	3,580,612	2,801,588	785,024	1,172,197	525,032	414,155	223,061	9,049	
Wages.....	1919	597,440,648	533,372,576	503,437,855	31,034,721	59,074,072	45,872,982	11,286,405	1,750,233	164,447
1916	60,575,901	48,020,123	39,144,681	8,875,442	12,555,778	7,338,041	3,393,567	1,656,834	167,336	
1914	32,931,156	25,160,792	20,718,725	4,447,067	7,765,304	3,415,902	2,945,988	1,270,844	125,030	
Paid for contract work.....	1919	10,107,529	8,205,806	7,450,870	754,936	1,901,723	1,600,723	226,200	12,908	1,802
1916	4,002,789	3,911,332	3,268,575	642,757	181,467	118,012	55,193	8,147	105	
1914	531,779	442,135	206,194	235,941	88,644	34,094	39,257	15,717	576	
Rent and taxes <sup>2</sup> .....	1919	51,201,986	47,490,861	41,231,912	6,267,919	8,702,125	2,621,708	907,832	146,020	26,505
1914	1,123,144	665,565	410,288	249,379	454,179	151,623	189,218	104,474	8,864	
Cost of materials.....	1919	710,522,670	643,752,814	622,462,097	21,290,717	66,769,802	56,898,161	7,293,565	2,187,418	390,718
1916	89,268,830	69,961,072	61,957,923	8,003,149	19,307,758	11,700,716	3,160,413	4,241,368	205,261	
1914	38,596,970	20,269,727	25,825,634	3,444,093	9,327,243	4,601,331	2,517,787	1,956,374	161,751	
Value of products.....	1919	1,622,361,261	1,458,489,516	1,372,064,851	84,424,065	165,871,745	133,303,335	26,549,156	5,197,682	821,572
1916	185,852,192	144,618,111	119,153,601	25,463,510	41,233,081	24,902,116	8,703,825	7,059,017	505,123	
1914	88,682,071	66,216,692	51,339,778	11,876,914	22,405,379	10,427,681	7,255,951	4,413,757	367,990	
Value added by manufacture <sup>3</sup> .....	1919	911,883,585	812,730,702	749,002,754	63,133,948	99,101,883	70,405,174	19,255,591	3,010,264	430,854
1916	96,583,362	74,658,039	57,197,678	17,460,361	21,925,323	13,201,400	5,603,412	2,817,649	302,862	
1914	50,685,101	36,910,965	28,514,144	8,432,821	13,138,136	5,730,350	4,738,164	2,457,383	206,239	

<sup>1</sup> Includes 4 establishments making boats under 5 tons, and 1 making masts, spars, oars, and the rigging of vessels.<sup>2</sup> Not reported in 1916.<sup>3</sup> Value of products less cost of materials.

TABLE 2.—COMPARATIVE SUMMARY: 1919, 1916, 1914, 1909, AND 1904.

	1919	1916	1914	1909	1904	PER CENT OF INCREASE. <sup>1</sup>			
						1916-1919	1914-1916	1909-1914	1904-1909
Number of establishments.....	1,075	1,137	1,147	1,353	1,097	-5.5	-0.9	-15.2	23.3
Persons engaged.....	413,236	78,333	44,667	44,949	54,424	+427.5	+61.0	+8.3	-17.4
Proprietors and firm members.....	816	1,103	1,192	1,463	1,190	+26.0	+7.5	+18.5	22.9
Salaried employees.....	24,974	4,733	2,988	2,980	2,480	+427.7	+58.5	+0.2	20.2
Wage earners (average number).....	387,446	72,497	44,489	40,506	50,754	+434.4	+63.0	+9.8	-20.2
Primary horsepower.....	553,711	(2)	115,333	88,063	78,127	-	-	31.0	12.7
Capital.....	\$1,389,447,820	\$243,217,869	\$156,059,938	\$126,118,489	\$121,623,700	-471.3	-55.8	23.7	3.7
Salaries and wages.....	602,561,142	67,526,623	37,639,965	29,303,132	32,580,828	+831.2	+79.2	+28.6	-10.1
Salaries.....	65,114,494	6,950,722	4,758,809	4,035,446	3,339,741	+836.8	+46.1	+17.9	20.8
Wages.....	597,440,648	60,575,901	32,931,156	25,267,686	20,241,087	+880.3	+83.9	+30.3	-13.0
Paid for contract work.....	10,107,529	4,092,789	531,779	1,185,579	674,418	+147.0	+669.6	+55.1	75.8
Rent and taxes.....	51,201,986	(3)	1,128,144	835,656	840,519	-	-	34.4	-
Cost of materials.....	710,522,676	89,268,830	38,590,970	31,214,358	37,403,179	+695.9	+131.3	+23.7	-16.7
Value of products.....	1,622,361,261	185,852,192	88,682,071	73,360,315	72,769,239	+772.9	+109.6	+20.9	-11.4
Value added by manufacture <sup>4</sup> .....	911,883,585	96,583,362	50,085,101	42,145,957	46,300,060	+844.1	+92.8	+18.8	-7.0

<sup>1</sup> A minus sign (-) denotes decrease.<sup>2</sup> Not reported.<sup>3</sup> Exclusive of internal revenue.<sup>4</sup> Value of products less cost of materials.

# SHIPBUILDING, INCLUDING BOAT BUILDING.

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**TABLE 3.—COMPARATIVE SUMMARY, GOVERNMENT SHIPYARDS: 1919, 1916, 1914, AND 1909.**

	1919	1916	1914	1909
Number of establishments.....	22	30	13	12
Persons engaged.....	71,186	23,528	18,328	16,425
Salaried employees.....	11,244	3,464	2,543	1,888
Wage earners (av. number).....	50,042	20,064	15,785	14,537
Primary horsepower.....	84,824	(1)	82,498	32,525
Salaries and wages.....	\$105,434,001	\$22,232,313	\$10,428,407	\$15,317,330
Salaries.....	19,405,416	4,451,210	3,336,530	2,646,806
Wages.....	86,028,675	17,781,103	13,091,067	12,670,524
Cost of materials.....	95,539,607	14,077,767	11,103,113	9,526,109
Value of work done during year.....	239,603,243	38,674,491	29,217,265	25,872,033
New vessels (5 gross tons and over).....	49,983,747	8,811,863	4,612,311	1,977,977
Vessels launched.....	23,927,989	3,876,710	1,385,131	156,141
Steel vessels.....	23,097,401	3,021,645	1,298,511	34,106
Steam.....	21,102,512	2,922,566	966,502	—
Motor.....	1,934,889	(1)	(1)	—
Unrigged.....	99,070	332,009	34,106	—
Wooden vessels.....	830,588	355,005	86,020	122,035
Steam.....	45,093	127,702	31,346	68,104
Motor.....	257,826	138,912	30,007	—
Unrigged.....	527,069	88,451	25,177	53,931
Vessels building but not launched.....	26,005,758	5,435,153	3,227,180	1,821,836
Steel.....	25,851,893	5,361,448	3,101,014	1,821,836
Wooden.....	153,805	73,705	128,165	—
Boats (less than 5 gross tons).....	1,840,889	351,939	175,730	153,346
All other products, including repair work.....	187,819,607	29,511,289	24,420,224	23,740,710

<sup>1</sup> Not reported.

**TABLE 5.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1916, 1914, AND 1909.**

INDUSTRY AND CLASS.	PERSONS ENGAGED.						INDUSTRY AND CLASS.	PERSONS ENGAGED.						
	Cen-	Total.			Male.	Fe-		Cen-	Total.			Male.	Fe-	
		Total.	Male.	Fe-		Male.	Female.		Male.	Fe-	Male.		Female.	
SHIPBUILDING, INCLUDING BOAT BUILDING.	1919	413,236	407,130	6,097	98.5	1.5		SHIPBUILDING, STEEL.....	1910	365,875	360,416	5,459	98.5	1.5
	1916	78,333	77,802	531	99.3	0.7		1910	50,802	50,476	328	99.5	0.5	
	1914	48,067	48,314	353	99.3	0.7		1910	35,004	35,470	104	99.5	0.5	
	1909	44,049	44,597	352	99.2	0.8		1909	30,041	29,890	151	99.5	0.5	
Proprietors and officials.....	1919	8,195	8,158	37	99.5	0.5		Proprietors and officials.....	1910	5,916	5,903	13	99.8	0.2
	1916	2,653	2,605	48	98.2	1.8		1910	1,007	1,003	4	99.6	0.4	
	1914	2,187	2,154	33	98.5	1.5		1914	582	582	3	99.5	0.5	
	1909	2,471	2,447	24	99.0	1.0		1909	491	491	—	100.0	—	
Proprietors and firm members....	1919	816	804	12	98.5	1.5		Proprietors and firm members....	1910	21	20	1	95.2	4.8
	1916	1,108	1,002	41	96.3	3.7		1910	35	33	2	94.3	5.7	
	1914	1,102	1,163	29	97.6	2.4		1914	24	22	2	91.7	8.3	
	1909	1,463	1,440	23	98.4	1.6		1909	21	21	—	100.0	—	
Salaried officers of corporations....	1919	875	861	14	98.4	1.6		Salaried officers of corporations...	1919	442	439	3	99.3	0.7
	1916	309	304	5	98.7	1.3		1916	194	193	1	99.5	0.5	
	1914	323	320	3	99.1	0.9		1914	166	165	1	99.4	0.6	
	1909	367	306	1	99.7	0.3		1909	122	122	—	100.0	—	
Superintendents and managers...	1919	6,504	6,403	11	99.8	0.2		Superintendents and managers...	1910	5,453	5,444	9	99.8	0.2
	1916	1,151	1,149	2	99.8	0.2		1916	778	777	1	99.9	0.1	
	1914	672	671	1	99.9	0.1		1914	305	305	—	100.0	—	
	1909	641	641	—	100.0	—		1909	348	348	—	100.0	—	
Clerks and other subordinate salaried employees.	1919	17,595	12,756	4,839	72.5	27.5		Clerks and other subordinate salaried employees.	1910	15,945	11,610	4,335	72.8	27.2
	1916	3,188	2,818	365	88.5	11.5		1916	2,558	2,335	223	91.3	8.7	
	1914	1,991	1,705	226	88.6	11.4		1914	1,571	1,447	124	92.1	7.9	
	1909	1,972	1,706	266	90.5	13.5		1909	1,407	1,302	105	92.5	7.5	
Wage earners (average number).....	1919	337,446	338,225	1,221	99.7	0.3		Wage earners (average number).....	1919	344,014	342,003	1,111	99.7	0.3
	1916	72,497	72,370	118	99.8	0.2		1916	50,237	56,188	99	99.8	0.2	
	1914	44,489	44,395	94	99.8	0.2		1914	33,508	33,441	67	99.8	0.2	
	1909	40,508	40,444	62	99.8	0.2		1909	28,143	28,097	46	99.8	0.2	
16 years of age and over.....	1919	387,193	385,972	1,221	99.7	0.3		16 years of age and over.....	1919	343,774	342,603	1,111	99.7	0.3
	1916	72,087	71,979	118	99.8	0.2		1916	55,859	55,760	99	99.8	0.2	
	1914	44,288	44,195	93	99.8	0.2		1914	33,323	33,257	66	99.8	0.2	
	1909	40,185	40,073	62	99.8	0.2		1909	27,794	27,748	46	99.8	0.2	
Under 16 years of age.....	1919	253	253	—	100.0	—		Under 16 years of age.....	1919	240	240	—	100.0	—
	1916	400	400	—	100.0	—		1916	378	378	—	100.0	—	
	1914	201	200	1	99.5	0.5		1914	185	184	1	99.5	0.5	
	1909	371	371	—	100.0	—		1909	349	349	—	100.0	—	

## MANUFACTURES.

TABLE 5.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1916, 1914 AND 1909—Continued.

INDUSTRY AND CLASS.	Cen-sus year.	PERSONS ENGAGED.					INDUSTRY AND CLASS.	Cen-sus year.	PERSONS ENGAGED.						
		Total.	Male.	Fe-male.	Per cent of total.				Total.	Male.	Fe-male.	Per cent of total.			
					Male.	Fe-male.						Male.	Fe-male.		
SHIPBUILDING, WOODEN, INCLUDING BOAT BUILDING.	1919	47,361	46,723	638	98.7	1.3	SHIPBUILDING, WOODEN, INCLUDING BOAT BUILDING—con.								
	1916	18,531	18,326	205	98.9	1.1	Clerks and other subordinate salaried employees.	1919	1,650	1,146	504	60.5	30.5		
	1914	13,003	12,844	159	98.8	1.2		1916	625	483	142	77.3	22.7		
	1909	14,908	14,707	201	98.7	1.3		1914	420	318	102	75.7	24.3		
Proprietors and officials.....	1919	2,279	2,255	24	98.9	1.1		1909	565	404	161	71.5	28.5		
	1916	1,646	1,602	44	97.3	2.7									
	1914	1,602	1,572	30	98.1	1.9									
	1909	1,980	1,958	24	98.8	1.2									
Proprietors and firm members....	1919	795	784	11	98.6	1.4	Wage earners (average number).....	1919	43,432	48,322	110	99.7	0.3		
	1916	1,068	1,029	39	96.3	3.7		1916	18,260	16,241	19	99.9	0.1		
	1914	1,168	1,141	27	97.7	2.3		1914	10,981	10,954	27	99.8	0.2		
	1909	1,442	1,419	23	98.4	1.6		1909	12,368	12,347	16	99.9	0.1		
Salaried officers of corporations...	1919	433	422	11	97.5	2.5	16 years of age and over.....	1919	43,419	43,309	110	99.7	0.3		
	1916	205	201	4	98.0	2.0		1916	16,236	16,217	19	99.9	0.1		
	1914	157	155	2	98.7	1.3		1914	10,965	10,938	27	99.8	0.2		
	1909	245	244	1	99.6	0.4		1909	12,341	12,325	16	99.9	0.1		
Superintendents and managers...	1919	1,051	1,040	2	99.8	0.2	Under 16 years of age.....	1919	13	13	.....	100.0	.....		
	1916	373	372	1	99.7	0.3		1916	24	24	.....	100.0	.....		
	1914	277	276	1	99.8	0.4		1914	16	16	.....	100.0	.....		
	1909	293	293	.....	100.0	.....		1909	22	22	.....	100.0	.....		

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by italic figures.]

STATE.	Aver-age num-ber em-ployed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.											Por-cent mini-mum is of maxi-mum.	
		Janu-ary.	Febru-ary.	March.	April.	May.	June.	July.	August.	Septem-ber.	Octo-ber.	Novem-ber.	Decem-ber.	
United States:														
1919.....	387,446	444,683	400,553	432,454	420,218	427,614	418,438	403,539	390,825	369,255	323,395	301,172	302,206	07.7
Males.....	386,225	442,939	404,955	430,990	427,844	426,409	417,262	402,416	389,739	368,252	322,449	300,260	301,185	07.8
Females.....	1,221	1,744	1,593	1,464	1,374	1,205	1,176	1,123	1,086	1,003	946	912	1,021	52.3
1916.....	72,497	59,483	61,615	64,782	67,801	70,167	73,251	72,788	74,259	77,069	79,281	83,600	85,923	60.2
1914.....	44,489	47,038	45,770	48,634	48,941	49,567	48,610	46,164	43,006	39,870	39,162	37,843	38,757	76.3
Shipbuilding, steel—														
1919.....	344,014	378,842	345,596	376,102	378,023	380,799	375,018	362,726	353,849	335,164	293,784	273,560	274,315	71.8
1916.....	56,237	47,087	48,674	51,376	52,033	53,809	55,044	55,659	57,257	59,565	61,760	64,685	66,399	70.0
1914.....	33,508	36,262	35,495	36,788	36,636	36,773	36,222	34,822	32,967	29,808	28,743	28,107	29,533	76.4
Shipbuilding, wooden, including boat building—														
1919.....	43,432	65,841	60,957	56,352	50,595	48,815	43,420	40,813	36,976	34,091	29,611	27,822	27,801	42.3
1916.....	16,260	12,546	12,941	13,406	15,168	16,348	17,307	17,129	17,002	17,504	17,526	18,915	19,529	63.2
1914.....	10,981	10,776	10,341	11,746	12,305	12,704	12,888	11,342	10,630	10,062	10,419	9,736	9,822	72.1
California.....	47,530	60,917	55,919	59,537	58,582	62,138	59,437	53,934	51,314	49,141	22,177	13,564	23,910	21.5
Florida.....	11,199	14,300	13,389	12,170	11,385	10,914	10,542	10,983	10,925	10,219	9,882	9,087	9,692	67.8
Louisiana.....	5,246	5,086	5,375	4,927	4,994	4,308	4,308	5,354	5,214	5,500	6,662	6,358	6,006	64.7
Maine.....	7,000	7,701	8,425	8,419	7,760	7,559	7,355	7,019	6,643	5,879	5,608	5,692	5,943	66.5
Maryland.....	10,084	19,410	19,913	20,482	20,051	19,496	19,227	19,678	17,626	17,932	18,266	18,876	18,101	86.3
Michigan.....	16,541	17,724	19,262	20,692	19,563	19,375	20,351	16,646	17,051	14,642	12,406	10,900	9,880	47.7
New Jersey.....	52,397	53,210	53,509	54,393	53,523	53,333	52,633	53,392	53,286	50,632	49,689	49,716	51,468	91.4
New York.....	33,295	39,842	38,707	38,385	37,302	35,543	34,507	34,088	32,095	28,981	24,432	26,682	29,050	61.3
Ohio.....	11,412	10,939	11,754	12,379	12,216	12,385	12,347	11,383	11,895	11,185	11,086	10,027	9,373	75.7
Washington.....	34,576	48,392	41,286	35,287	43,830	43,546	41,826	39,965	37,883	35,759	29,739	24,821	22,578	23.3
Wisconsin.....	7,865	6,070	7,437	7,555	8,171	8,181	8,279	8,484	8,574	8,544	7,500	6,973	74.3	

## SHIPBUILDING, INCLUDING BOAT BUILDING.

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TABLE 7.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States.....	1919	387,446	259,809	4,700	116,122	2,038	2,156	477	1,964	120
	1914	44,489	(2)	(2)	14,730	7,038	12,320	1,524	7,771	506
	1909	40,506	(2)	(2)	3,805	2,074	9,888	10,045	14,038	1
Shipbuilding, steel.....	1919	344,014	246,800	4,685	89,901	583	541	133	1,300	498
	1914	33,508	(2)	(2)	11,928	6,861	6,900	928	6,303	—
Shipbuilding, wooden, including boat building.....	1919	43,432	12,043	75	26,221	1,455	1,615	339	604	120
	1914	10,981	(2)	(2)	2,802	777	5,420	598	1,378	8
California.....	1919	47,530	46,970	—	550	—	1	—	—	—
	1914	3,457	(2)	(2)	3,035	—	61	—	—	301
Florida <sup>2</sup> .....	1919	11,199	2	—	10,806	11	242	—	78	—
Louisiana.....	1919	5,346	50	—	5,218	6	45	—	33	—
	1914	666	(2)	(2)	—	—	326	110	87	137
Maine.....	1919	7,000	581	4,817	1,294	233	392	183	—	—
	1914	1,122	(2)	(2)	649	39	199	60	175	—
Maryland.....	1919	19,084	18,615	—	251	80	84	10	44	—
	1914	2,408	(2)	(2)	185	1,378	678	91	136	—
Michigan.....	1919	10,541	234	—	10,067	51	181	5	3	—
	1914	1,201	(2)	(2)	98	30	730	14	389	—
New Jersey.....	1919	52,397	41,555	312	9,977	151	176	22	200	4
	1914	6,324	(2)	(2)	5,065	632	660	1	35	2
New York.....	1919	33,295	6,079	76	26,258	494	207	68	113	—
	1914	6,076	(2)	(2)	877	1,000	3,725	173	287	5
Ohio.....	1919	11,412	2,410	8	8,750	146	67	—	36	—
	1914	2,879	(2)	(2)	9	11	327	794	1,738	—
Washington.....	1919	34,576	33,203	—	1,373	—	—	—	8	—
	1914	1,444	(2)	(2)	351	—	1,085	—	—	—
Wisconsin.....	1919	7,855	210	—	7,554	—	18	25	48	—
	1914	605	(2)	(2)	45	7	554	15	73	1

<sup>1</sup> Includes 48 and under for 1914 and 1909.<sup>2</sup> Corresponding figures not available.<sup>3</sup> Figures not available for 1914.

TABLE 8.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.	ESTABLISHMENTS EMPLOYING—									
		No wage earners.	1 to 5 wage earners, inclusive.	6 to 20 wage earners, inclusive.	21 to 50 wage earners, inclusive.	51 to 100 wage earners, inclusive.	101 to 250 wage earners, inclusive.	251 to 500 wage earners, inclusive.	501 to 1,000 wage earners, inclusive.	Over 1,000 wage earners.	
Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	Establishments.	
United States:											
1919.....	1,075	387,446	126	370	757	167	1,926	102	3,390	73	5,921
1916.....	1,137	72,497	143	435	1,024	230	2,371	113	3,515	69	5,095
1914.....	1,147	44,489	170	602	1,384	194	2,157	81	2,044	40	2,966
Shipbuilding, steel—											
1919.....	102	344,014	1	6	13	12	120	11	356	17	1,222
1916.....	109	56,236	1	4	16	12	151	16	568	16	1,182
1914.....	79	33,508	—	4	9	11	137	10	369	10	763
Shipbuilding, wooden, including boat building—											
1919.....	913	43,432	125	373	744	155	1,806	91	3,034	56	3,999
1916.....	1,028	16,261	145	481	1,008	218	2,220	97	2,947	53	3,913
1914.....	1,068	10,981	170	598	1,325	183	2,020	71	2,275	30	2,203
California.....	67	47,530	3	15	38	23	248	7	214	2	139
Florida.....	73	11,199	3	33	66	16	146	5	104	8	227
Louisiana.....	22	5,346	1	5	9	5	67	3	104	—	—
Maine.....	82	7,000	14	31	45	7	94	10	348	9	748
Maryland.....	42	19,084	4	12	22	5	53	9	332	1	98
Michigan.....	33	16,541	5	10	16	7	88	2	80	3	244
New Jersey.....	93	52,397	16	37	77	10	106	5	180	5	323
New York.....	161	33,295	18	49	93	24	292	19	603	20	1,375
Ohio.....	28	11,412	7	5	11	3	36	4	112	4	312
Washington.....	76	34,576	7	23	39	13	180	6	192	6	434
Wisconsin.....	35	7,855	6	14	23	3	46	1	28	2	115

## MANUFACTURES.

TABLE 9.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1916, AND 1914.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1916	1914	1919	1916	1914	1919	1916	1914	1919	1916	1914
	All classes	1,075	1,137	1,147	387,446	72,407	44,489	\$1,622,361,261	\$185,852,102	\$88,682,071	\$911,838,585	\$96,583,362
Less than \$5,000	287	461	549	145	472	558	629,905	1,018,222	1,190,088	436,474	682,718	822,806
\$5,000 to \$20,000	238	300	314	388	1,764	1,689	2,461,121	3,101,970	3,216,529	1,650,356	2,015,011	2,066,431
\$20,000 to \$100,000	183	197	182	2,978	4,364	4,102	8,325,152	9,006,099	7,916,358	5,236,140	5,132,024	4,442,517
\$100,000 to \$500,000	169	144	76	12,600	16,827	11,581	{ 42,718,353	{ 42,398,128	{ 17,638,417	{ 25,902,990	{ 24,051,907	{ 22,343,535
\$500,000 to \$1,000,000	55	11	9	9,832	11,581	8,787,810	1,528,837,920	130,323,773	51,118,578	854,560,709	66,410,074	15,108,403
\$1,000,000 and over	143	35	15	360,993	49,070	26,519						27,644,944
PER CENT DISTRIBUTION.												
All classes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000	28.7	40.5	47.9	(1)	0.7	1.3	(1)	0.6	1.4	(1)	0.7	1.6
\$5,000 to \$20,000	22.1	26.4	27.4	0.2	2.4	3.8	0.2	1.7	3.6	0.2	2.1	4.1
\$20,000 to \$100,000	17.0	17.3	15.9	0.8	6.0	9.4	0.5	4.8	8.9	0.6	5.3	8.9
\$100,000 to \$500,000	15.7	12.7	6.6	3.3	23.2	26.0	2.8	22.8	19.9	2.8	23.1	30.2
\$500,000 to \$1,000,000	5.1	1.0	2.5	2.3	59.6	94.3	70.1	57.6	93.7	68.8	55.2	
\$1,000,000 and over	13.3	3.1	1.3	93.2	67.7							

<sup>1</sup> Less than one-tenth of 1 per cent.

TABLE 10.—CHARACTER OF OWNERSHIP, BY STATES: 1919, 1916, 1914, AND 1909.

STATE.	Cen-	NUM-	ESTABLISH- MENTS OWNED BY—	AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.								
				In establish- ments owned by—			Per cent of total.			Of establish- ments owned by—			Per cent of total.					
				Indi- viduals.	Cor- porations.	All oth- others.	Total.	Indi- viduals.	Cor- porations.	All oth- others.	Individ- uals.	Corpora- tions.	All others.	Indi- viduals.	Cor- porations.	All oth- others.		
United States.....	1919	465	448	162	387,446	2,571	380,433	4,442	0.7	98.2	1.1	\$1,622,361,261	\$10,661,820	\$1,597,770,403	\$14,029,088	0.7	98.5	0.9
	1916	630	310	197	72,407	3,647	66,442	2,408	5.0	91.6	3.3	185,852,102	8,849,579	171,361,267	5,641,346	4.8	92.2	3.0
	1914	695	242	210	44,489	2,666	39,907	1,856	6.0	89.8	4.2	88,682,071	5,598,619	79,046,032	4,037,420	6.3	89.1	4.6
	1909	824	247	232	40,506	3,660	34,475	2,371	9.0	85.1	5.9	73,380,315	6,798,384	61,646,518	4,917,433	9.3	84.0	6.7
Shipbuilding, steel.....	1919	8	148	6	844,014	87	343,035	282	(1)	99.9	0.1	1,456,489,516	401,883	1,454,061,083	1,126,560	(1)	99.9	0.1
	1916	11	87	11	56,237	618	55,245	374	1.1	98.2	0.7	144,019,111	1,420,661	142,285,944	942,506	1.0	98.4	0.6
	1914	7	64	8	33,508	189	33,019	300	0.6	98.5	0.0	66,216,692	434,042	64,973,326	805,424	0.7	98.1	1.2
Shipbuilding, wooden, including boat building.....	1919	457	300	156	43,432	2,474	30,798	4,160	5.7	84.7	9.6	165,871,745	10,159,937	142,809,320	12,902,488	6.1	86.1	7.8
	1916	619	223	188	16,260	3,029	11,197	2,034	18.6	68.9	12.5	41,233,031	7,428,918	29,105,323	4,698,840	18.0	70.6	11.4
	1914	688	178	202	10,981	2,477	6,948	1,556	22.6	63.3	14.2	22,405,379	5,163,677	14,072,703	3,223,936	23.0	62.6	14.4
California.....	1919	24	27	16	47,530	216	47,054	280	0.5	99.0	0.5	185,882,234	916,667	183,858,817	1,106,750	0.5	98.9	0.6
	1916	23	17	10	7,113	404	6,028	80	5.7	93.1	1.2	19,777,911	1,530,807	18,036,821	210,233	7.7	91.2	1.1
	1914	28	17	7	3,457	203	3,171	83	5.9	91.7	2.4	8,104,033	550,871	7,350,730	202,432	6.8	90.7	2.5
Florida <sup>1</sup> .....	1919	38	26	9	11,199	132	10,474	593	1.2	93.5	5.3	32,602,379	395,979	31,103,378	1,163,022	1.2	95.2	3.6
Louisiana.....	1919	5	14	3	5,346	57	5,279	10	1.1	98.7	0.2	17,597,808	79,165	17,483,662	35,041	0.4	99.4	0.2
	1916	14	9	3	1,306	74	1,171	61	5.7	89.7	4.7	2,606,767	127,836	2,395,786	83,145	4.0	91.9	3.2
	1914	7	6	4	666	45	534	87	0.8	80.2	13.1	1,080,319	31,580	956,732	92,007	2.9	88.6	8.5
Maine.....	1919	39	30	13	7,000	229	6,715	56	3.3	95.9	0.8	24,682,253	970,594	23,398,053	313,606	3.0	94.8	1.3
	1916	62	18	20	1,857	163	1,452	242	8.8	78.2	18.0	4,882,131	475,171	3,797,220	609,721	9.7	77.8	12.5
	1914	75	13	19	1,122	95	893	134	8.5	79.6	11.9	2,482,518	190,833	2,007,196	284,489	7.7	80.0	11.5
Maryland.....	1919	13	21	8	19,084	142	18,803	49	0.7	99.0	0.3	67,300,914	415,484	66,712,033	182,397	0.6	99.1	0.3
	1916	29	14	7	5,326	250	4,870	188	4.9	91.6	3.5	12,205,557	483,147	11,205,684	453,726	4.0	93.3	3.7
	1914	23	12	7	2,468	168	2,126	174	6.8	86.1	7.1	4,521,169	254,161	3,919,507	347,501	5.6	86.7	7.7
Michigan.....	1919	16	16	1	16,541	140	16,401	132	0.8	99.2	—	85,154,702	1,008,000	84,146,702	—	1.2	98.8	—
	1916	37	11	8	2,225	381	1,712	132	17.1	76.9	5.9	5,587,103	679,570	4,620,709	830,824	12.1	82.0	5.9
	1914	42	11	9	1,201	175	940	146	13.9	74.5	11.6	2,822,557	336,488	2,184,864	351,205	11.9	76.6	12.4
New Jersey.....	1919	49	31	13	52,397	153	51,957	287	0.3	99.2	0.5	238,014,659	496,575	236,391,794	1,126,290	0.2	99.3	0.5
	1916	41	24	11	7,777	180	7,495	122	2.1	98.4	1.8	20,311,529	322,038	19,751,940	237,551	1.6	97.2	1.2
	1914	51	23	11	6,324	143	6,095	81	2.3	96.4	1.3	11,860,965	331,988	11,333,079	195,208	2.8	95.6	1.6
New York.....	1919	72	71	18	33,295	628	32,133	534	1.9	96.5	1.0	132,012,124	3,100,018	128,421,333	2,490,773	2.3	95.8	1.0
	1916	116	50	34	9,928	830	8,527	571	8.4	85.9	5.7	31,857,645	2,326,178	27,394,016	1,636,851	7.4	87.4	5.2
	1914	129	39	39	8,076	697	4,035	444	11.5	81.2	7.3	14,195,298	1,619,849	11,493,607	1,142,842	11.4	80.5	8.0
Ohio.....	1919	11	13	4	11,412	48	11,341	23	0.4	99.4	0.2	57,482,599	147,801	57,284,711	70,087	0.3	99.6	0.1
	1916	11	13	8	5,059	35	4,089	35	0.7	98.6	0.7	12,160,007	83,976	12,009,771	66,260	0.7	98.8	0.5
	1914	12	12	5	2,879	74	2,769	36	2.6	96.2	1.3	4,716,787	105,840	4,537,147	73,800	2.2	96.2	1.0
Washington.....	1919	23	40	13	34,576	75	33,953	548	0.2	98.2	1.6	166,519,787	292,085	163,805,783	2,331,919	0.2	98.4	1.4
	1916	21	23	13	3,744	49	3,581	114	1.3	95.6	3.0	10,829,812	118,980	10,406,725	304,107	1.1	96.1	2.3
	1914	35	11	18	1,444	95	1,234	115	6.6	85.5	8.0	3,101,446	273,285	2,551,020	277,161	8.8		

## SHIPBUILDING, INCLUDING BOAT BUILDING.

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TABLE 11.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	22,179	2,099	1,900	553,711	115,333	88,063	100.0	100.0	100.0
Owned.....	1,255	1,338	1,416	128,200	85,029	78,769	23.2	73.7	89.4
Steam <sup>1</sup> .....	789	831	901	121,200	79,599	75,180	21.9	69.0	86.4
Engines.....	750	(2)	(2)	79,164	(2)	(2)	14.3	-----	-----
Turbines.....	39	(2)	(2)	42,036	(2)	(2)	7.6	-----	-----
Internal-combustion engines.....	461	502	420	7,010	5,330	3,503	1.3	4.6	4.0
Water wheels, turbines, and motors.....	5	5	5	71	94	86	(*)	0.1	0.1
Rented.....	20,024	1,061	544	425,421	30,304	9,294	76.8	26.3	10.6
Electric.....	20,924	1,061	544	424,981	30,086	9,264	76.7	25.1	10.6
Other.....	-----	-----	-----	440	219	30	0.1	0.2	(*)
Electric.....	23,390	3,980	2,206	476,135	66,276	35,334	100.0	100.0	100.0
Rented.....	20,924	1,061	544	424,981	30,086	9,264	89.3	45.4	26.2
Generated by establishments reporting.....	2,400	2,328	1,722	51,154	30,190	26,070	10.7	54.6	73.8

<sup>1</sup> Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.<sup>2</sup> Not reported separately.<sup>3</sup> Less than one-tenth of 1 per cent.

TABLE 12.—FUEL CONSUMED, BY STATES: 1919 AND 1914.

STATE AND CENSUS YEAR.	COAL.					STATE AND CENSUS YEAR.	COAL.						
	Anthra-cite (tons, 2,240 lbs.).	Bitumi-nous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (bar- rels).		Anthra-cite (tons, 2,240 lbs.).	Bitumi-nous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (bar- rels).		
United States:						Michigan:							
1919.....	50,284	868,713	97,690	1,032,072	101,170	701,461	10	80,084	2,691	30,456	1,244	-----	
1914.....	13,441	251,820	10,548	122,929	(1)	404,785	19	22,594	2,410	2,290	(1)	194	
Shipbuilding, steel—						New Jersey:							
1919.....	37,392	785,898	90,717	980,144	95,584	694,407	21,983	165,259	14,300	109,959	30,309	24,115	
Shipbuilding, wooden—						1914.....	6,179	30,101	1,397	7,170	(1)	520	
1919.....	12,842	82,815	973	52,528	5,595	6,994	15,229	66,719	4,019	21,913	6,054	6,040	
California:						1914.....	4,255	23,347	630	2,657	(1)	5,741	
1919.....	1,725	1,355	13,770	191,705	5,774	2,013	759	69,190	4,338	842	33,082	44,224	
1914.....	15	175	.....	78,596	(1)	30	64	24,434	1,851	4,174	(1)	387,074	
Louisiana:						Ohio:							
1919.....	14	9,908	605	14,279	1,895	1,053	Washington:						
1914.....	4	740	34	1,452	(1)	.....	1919.....	100	7,644	10,407	154,560	2,702	
Maine:						1914.....	5	61	190	11,670	(1)	47,274	
1919.....	653	9,644	31	26,069	70	103	Wisconsin:						
1914.....	19	4,871	1	264	(1)	140	1919.....	361	28,553	1,312	23,106	255	
Maryland:						1914.....	49	5,782	30	113	(1)	664	
1919.....	5,340	34,810	3,318	19,066	1,244	370	All other states:						
1914.....	481	19,677	364	1,205	(1)	4,054	195,547	42,500	440,627	18,460	172,247		
							1914.....	2,361	114,058	5,623	13,339	(1)	10,716

<sup>1</sup> Included in figures for fuel oils.

## SPECIAL STATISTICS.

Statistics covered and terms used.—The schedules used in collecting the statistics of shipbuilding required a detailed statement of the number, kind, and tonnage of vessels launched, and value of the different kinds of work performed.

In explanation of the terms gross and net tons, it should be stated that gross tonnage is the total internal cubic capacity of a vessel, expressed in tons of 100 cubic feet each, while net tonnage is the internal cubic capacity remaining after deductions have been made from gross tonnage for quarters of officers and crew, for boilers, machinery, and coal bunkers, and for navigation and other purposes. Net tonnage, therefore, may be regarded as that portion of the vessel which is available for passengers and cargo. Tonnage measurements are not altogether uniform among maritime nations, but vary with the laws of the nation under which registry is made. Displacement tonnage, the term used in stating the size of vessels of the United States Navy, differs from gross and net tonnage as applied to merchant vessels, and is merely the weight of the volume of water displaced, equivalent, of course, to the weight of the vessel. The tonnage of vessels of the United States Navy, as given in the statistics, is always displacement tonnage. While gross tonnage and displacement tonnage are not by any means the same, it is necessary to combine the tonnage of vessels whose capacity is reckoned in one way, with that of vessels whose capacity is reckoned by the other method, in order to obtain a total which should represent approximately the total tonnage launched during the year.

In the tables which follow, gross tonnage is shown

unless otherwise specified, and the statistics do not include the products of Government shipyards nor the subsidiary products of establishments in other industries unless specifically stated.

Number and gross tonnage of vessels launched and number of power boats.—Table 13 shows the number and gross tonnage of all vessels launched during the census years 1919, 1916, 1914, and 1909, and distinguishes three classes of establishments reporting for 1919, 1914, and 1909, and two classes of establishments for 1916. In many cases a large part of the work on vessels launched during the census years was done in prior years, and on the other hand, much work was done during each census year on vessels which were not launched.

In 1919, 1914, and 1909, shipbuilding statistics were collected as a part of the quinquennial census of manufactures for these years, and include data for vessels and boats built by establishments engaged primarily in other lines of manufacture and hence not classed as shipbuilding, whereas the census of 1916 did not cover other manufacturing industries but was limited to the shipbuilding industry proper. The statistics for 1916, therefore, are those of establishments engaged primarily in ship and boat building and repairs, and include Government shipyards, but do not include any ships or boats that may have been built in establishments designated as "Private establishments in other industries." The number, as well as the tonnage, of vessels launched by these private establishments is relatively small, the tonnage amounting to only 1.1 per cent of the total in 1919, 3 per cent in 1914, and 2.6 per cent in 1909.

## SHIPBUILDING, INCLUDING BOAT BUILDING.

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TABLE 13.—NUMBER AND GROSS TONNAGE OF VESSELS LAUNCHED AND NUMBER OF POWER BOATS: 1919, 1916, 1914, AND 1909.

CLASS.	Census year.	ALL ESTABLISHMENTS.		PRIVATE ESTABLISHMENTS IN THE SHIPBUILDING INDUSTRY.		PRIVATE ESTABLISHMENTS IN OTHER INDUSTRIES.		GOVERNMENT SHIPIARDS.	
		Number.	Gross tonnage.	Number.	Gross tonnage.	Num- ber.	Gross tonnage.	Num- ber.	Displace- ment tonnage.
Vessels of 5 gross tons and over.....	1919	2,202	4,662,433	2,038	14,489,809	64	51,970	105	120,654
	1916	1,468	772,167	1,377	734,108	.....	.....	86	38,059
	1914	1,255	455,567	1,113	425,080	94	13,654	48	16,853
	1909	1,637	481,813	1,584	407,219	22	12,535	31	2,050
Classified by material:									
Steel.....	1919	1,181	3,882,894	1,095	3,734,201	59	47,194	27	101,490
	1916	244	518,858	230	485,860	.....	.....	14	32,998
	1914	215	268,870	120	242,959	60	9,792	20	16,119
	1909	169	260,765	158	254,980	8	5,420	3	350
Wooden.....	1919	1,021	779,539	988	755,608	5	4,776	78	10,155
	1916	1,219	253,309	1,147	248,248	.....	.....	72	5,001
	1914	1,040	188,697	987	182,101	25	3,862	28	734
	1909	1,408	221,048	1,426	212,233	14	7,106	28	1,709
Classified by power:									
Steam.....	1919	1,230	4,100,652	1,203	4,010,724	.....	.....	27	98,928
	1916	206	472,597	186	442,354	.....	.....	20	30,243
	1914	148	243,011	139	234,638	.....	.....	9	8,375
	1909	104	235,515	181	234,033	3	429	10	253
Motor.....	1919	254	60,399	241	57,174	.....	.....	13	3,225
	1916	434	30,316	403	29,866	.....	.....	31	450
	1914	382	10,867	370	10,821	4	6	8	40
	1909	447	9,413	446	9,389	2	24	.....	.....
Sail, with auxiliary power.....	1919	28	19,242	27	17,754	1	1,488	.....	.....
	1916	62	30,025	62	30,025	.....	.....	.....	.....
	1914	66	6,575	58	2,799	8	3,776	.....	.....
	1909	68	2,652	68	2,052	.....	.....	.....	.....
Sail, without auxiliary power .....	1919	58	64,579	57	63,091	1	1,488	.....	.....
	1916	62	15,456	62	15,456	.....	.....	.....	.....
	1914	40	2,224	40	2,224	.....	.....	.....	.....
	1909	51	14,307	51	14,307	.....	.....	.....	.....
Unrigged.....	1919	632	408,561	505	341,006	62	48,894	65	18,501
	1916	699	223,173	604	215,807	.....	.....	35	7,368
	1914	619	192,890	506	174,580	82	9,872	31	8,438
	1909	877	219,026	839	205,738	17	12,082	21	1,906
Power boats of less than 5 gross tons.....	1919	1,716	.....	1,159	.....	206	.....	351	.....
	1916	3,710	.....	3,606	.....	.....	.....	104	.....
	1914	4,518	.....	3,706	.....	758	.....	54	.....
	1909	9,012	.....	8,577	.....	412	.....	58	.....

<sup>1</sup> Includes 122,457 tonnage reported as "displacement tonnage" instead of "gross tonnage."<sup>2</sup> Includes 14 concrete vessels, 18,034 gross tons.

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Number and gross tonnage of vessels launched, by coast divisions and inland waters.—Table 14 gives, for private establishments in the shipbuilding industry, the number and gross tonnage of vessels launched, and the number of power boats built of less than 5 gross tons for 1919, 1916, and 1914. Statistics are presented for coastal areas and inland waters designated as follows:

1. The North Atlantic division which includes establishments located on the Atlantic seaboard and the navigable rivers of the New England states, and of New York, New Jersey, Pennsylvania, and Delaware.

2. The South Atlantic division which includes establishments located in Maryland, the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, and on the east coast of Florida.

3. The Gulf division which includes establishments located on the Gulf of Mexico and on waters tributary to the Gulf, other than the Mississippi River, in the states of Florida, Alabama, Mississippi, Louisiana, and Texas.

4. The Pacific division which includes establishments located in the states of California, Oregon, and Washington.

5. The Great Lakes division which includes establishments in the territory bordering on the Great Lakes and the St. Lawrence River.

6. The division designated "Mississippi River and its tributaries" which includes establishments located on these rivers.

7. The division "Other inland waters" which includes establishments, chiefly boat-building plants, located on lakes and rivers other than those mentioned in the preceding groups. This division also includes establishments located on canals and engaged in the building of canal boats.

In 1919, 40.7 per cent of all tonnage launched in the United States, was constructed in the North Atlantic division, 30.2 per cent on the Pacific Coast, 15.6 per cent on the Great Lakes and all other inland waters, and 13.5 per cent in the South Atlantic and Gulf divisions.

TABLE 14.—NUMBER AND GROSS TONNAGE OF VESSELS LAUNCHED, BY COAST DIVISIONS AND INLAND WATERS: 1919, 1916, AND 1914.

CLASS.	Census year.	United States.	COAST DIVISIONS.				INLAND WATERS.		
			North Atlantic.	South Atlantic.	Gulf.	Pacific.	Great Lakes.	Mississippi River and its tributaries.	Other inland waters.
<b>Vessels of 5 gross tons and over:</b>									
Number.....	1919	2,033	781	205	164	419	354	95	15
	1916	1,377	597	138	87	223	89	234	9
	1914	1,113	401	99	126	231	82	153	21
Gross tonnage.....	1919	4,489,300	1,820,365	295,821	313,474	1,356,017	657,816	38,700	2,116
	1916	734,108	280,249	128,614	18,507	134,086	121,134	50,593	925
	1914	425,060	174,032	69,280	23,733	41,112	43,251	71,612	1,434
Steel:									
Number.....	1919	1,095	1,443	269	448	4,218	807	10	.....
	1916	230	64	27	7	20	57	55	.....
	1914	126	41	21	6	15	21	22	.....
Gross tonnage.....	1919	3,784,201	6,647,627	6,240,663	7,148,200	8,108,441	595,416	12,854	.....
	1916	485,890	136,009	108,929	1,990	102,119	118,000	17,313	.....
	1914	242,959	108,042	60,114	1,931	23,973	39,929	8,970	.....
Wooden:									
Number.....	1919	938	338	136	116	201	47	85	15
	1916	1,147	533	111	89	203	32	179	9
	1914	987	360	78	120	216	61	131	21
Gross tonnage.....	1919	755,608	178,738	54,658	165,274	266,576	62,400	25,846	2,116
	1916	248,248	143,340	19,685	16,517	31,967	2,534	33,280	925
	1914	182,101	68,590	9,172	21,802	17,139	8,322	62,642	1,434
Steam:									
Number.....	1919	1,203	458	90	58	269	324	4	.....
	1916	186	68	22	7	33	46	20	.....
	1914	130	44	18	4	22	29	20	2
Gross tonnage.....	1919	4,010,724	1,672,967	250,364	209,321	1,269,766	600,923	1,393	.....
	1916	442,354	128,319	95,897	2,052	111,404	102,464	3,618	.....
	1914	234,636	104,100	57,544	415	28,890	38,811	4,798	78
Motor:									
Number.....	1919	241	89	38	20	81	9	2	2
	1916	403	170	38	22	123	22	24	4
	1914	370	123	33	28	132	39	8	7
Gross tonnage.....	1919	57,174	17,931	1,143	23,958	13,791	243	50	58
	1916	29,866	7,052	18,950	466	7,315	470	549	45
	1914	10,821	2,221	593	1,909	4,996	972	86	44
Sail with auxiliary power:									
Number.....	1919	27	17	6	4	.....	.....	.....	.....
	1916	62	31	3	12	9	7	.....	.....
	1914	58	35	3	2	15	3	.....	.....
Gross tonnage.....	1919	17,754	1,977	4,651	11,126	.....	.....	.....	.....
	1916	30,025	2,854	1,420	4,595	9,985	11,771	90	.....
	1914	2,799	1,746	56	72	835	90	.....	.....
Sail without auxiliary power:									
Number.....	1919	57	33	4	8	10	.....	2	.....
	1916	62	33	1	.12	15	1	.....	.....
	1914	40	18	2	5	15	.....	.....	.....
Gross tonnage.....	1919	63,091	33,612	4,323	7,748	17,378	.....	30	.....
	1916	15,465	9,395	75	2,298	1,368	2,320	.....	.....
	1914	2,224	1,844	84	194	122	.....	.....	.....
Unrigged:									
Number.....	1919	505	184	73	72	55	21	87	13
	1916	664	305	74	34	43	13	190	5
	1914	506	181	43	87	47	11	125	12
Gross tonnage.....	1919	341,066	99,888	33,491	67,706	43,956	56,650	37,227	2,058
	1916	215,807	134,629	17,262	8,496	4,014	4,100	46,426	880
	1914	174,580	64,721	11,029	21,143	6,260	3,373	66,728	1,312
Power boats of less than 5 gross tons.....	1919	1,159	491	120	25	200	107	31	185
	1916	3,600	1,946	143	152	191	412	462	200
	1914	3,706	1,265	206	127	363	541	427	777

<sup>1</sup> Includes 6 concrete barges.

<sup>2</sup> Includes 1 composite vessel.

<sup>3</sup> Includes 5 composite and 2 concrete vessels.

<sup>4</sup> Includes 6 concrete and 3 composite vessels.

<sup>5</sup> Includes 3,000 tons concrete vessels.

<sup>6</sup> Includes 5,189 gross tons composite vessels.

<sup>7</sup> Includes 15,636 gross tons composite and 12,574 tons concrete vessels.

<sup>8</sup> Includes 2,400 tons concrete and 8,772 tons composite vessels.

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Steel power vessels launched, by class, by coast divisions and inland waters.—Table 15 shows the class, number, gross tonnage, and place where launched of all steel vessels built in the United States in 1919, exclusive of Government vessels.

The greatest tonnage, 450,574, was launched in Newark, N. J., and the second greatest tonnage, 390,698, in Seattle, Wash. While Newark holds first place in aggregate tonnage, the vessels launched in Seattle were of larger average tonnage, the figures being 4,210 and 6,301, respectively.

TABLE 15.—STEEL POWER VESSELS LAUNCHED, BY CLASS, BY COAST DIVISIONS AND INLAND WATERS: 1919.

DIVISION.	TOTAL.				SCREW.				STERN-WHEEL STEAM.	
	Steam.		Motor.		Steam.		Motor.			
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
United States <sup>1</sup> .....	999	3,670,617	46	24,780	932	3,599,107	46	24,780	17	71,420
North Atlantic.....	397	1,621,472	20	15,703	396	1,621,072	20	15,703	1	400
South Atlantic.....	67	236,480	.....	.....	66	231,291	.....	.....	1	5,189
Gulf.....	33	137,224	4	627	32	133,624	4	627	1	3,600
Pacific.....	204	1,080,981	13	8,450	194	1,020,321	13	8,450	10	60,860
Great Lakes.....	295	593,266	.....	.....	294	592,880	.....	.....	1	377
Mississippi River and its tributaries.....	3	1,194	.....	.....	.....	.....	.....	.....	3	1,194

<sup>1</sup> Includes 14 concrete vessels, 18,034 gross tons.

Gross tonnage and kind of service of vessels launched.—Table 16 presents, by coast divisions and inland waters, the gross tonnage of vessels launched during 1919, according to the service in which vessels are to be used. In this and the following tables data do not include the products of Government shipyards.

The bulk of the shipbuilding in the United States has been the tonnage for freight service, which em-

braces the foreign, coastwise, and domestic trade, and includes freight tonnage carrying passengers. This class of tonnage represented 81.4 per cent of the entire tonnage launched in 1919.

Tankers for the carriage of oil in bulk show a remarkable increase, the tonnage launched in 1919 being 346,253 as compared with 26,655 in 1916.

TABLE 16.—GROSS TONNAGE AND KIND OF SERVICE OF VESSELS LAUNCHED: 1919.

CHARACTER OF SERVICE.	United States.	COAST DIVISIONS.				INLAND WATERS.		
		North Atlantic.	South Atlantic.	Gulf.	Pacific.	Great Lakes.	Mississippi River and its tributaries.	Other inland waters.
Total tonnage.....	4,480,800	1,826,365	295,321	313,474	1,358,017	657,816	38,700	2,116
Passenger.....	40,895	40,580	306	.....	.....	.....	.....	.....
Freight.....	3,655,644	1,515,107	150,907	215,135	1,105,254	608,109	29,682	1,200
Towing.....	40,195	16,156	5,402	8,254	1,101	8,040	683	60
Ferry.....	1,663	1,229	13	.....	421	.....	.....	.....
Tanker.....	346,253	87,310	110,247	20,224	120,997	.....	7,475	.....
Fishing.....	5,886	3,283	458	7	1,721	394	.....	.....
Canal.....	13,555	12,575	120	.....	12	.....	.....	848
U. S. Government.....	359,658	144,072	8,513	39,705	120,222	40,246	900	.....
Foreign government.....	18,950	100	18,800	.....	.....	.....	.....	.....
Yacht.....	1,481	887	374	140	53	58	10	.....
All other.....	5,739	5,014	121	.....	238	300	50	18
Steel tonnage.....	3,734,201	1,647,027	240,603	148,200	1,080,441	595,416	12,854	.....
Passenger.....	40,500	40,500	.....	.....	.....	.....	.....	.....
Freight.....	3,110,484	1,387,332	103,290	128,368	930,159	553,669	7,660	.....
Towing.....	17,398	11,477	285	1,108	.....	4,234	294	.....
Ferry.....	1,215	1,215	.....	.....	.....	.....	.....	.....
Tanker.....	329,999	78,031	110,247	18,724	120,997	.....	4,000	.....
Fishing.....	1,719	1,342	.....	.....	.....	877	.....	.....
Canal.....	3,000	3,000	.....	.....	.....	.....	.....	.....
U. S. Government.....	210,854	124,580	7,975	2,000	38,208	37,136	900	.....
Foreign government.....	18,950	100	18,800	.....	22	.....	.....	.....
All other.....	72	50	.....	.....	.....	.....	.....	.....
Wooden tonnage.....	755,608	178,733	54,658	165,274	286,576	62,400	25,846	2,116
Passenger.....	305	89	300	.....	.....	.....	.....	.....
Freight.....	545,080	127,865	47,611	116,767	175,095	54,500	22,022	1,200
Towing.....	22,797	4,679	5,117	7,146	1,101	4,415	289	60
Ferry.....	448	14	13	.....	421	.....	3,475	.....
Tanker.....	16,254	9,270	.....	3,600	.....	.....	.....	.....
Fishing.....	4,147	1,944	458	7	1,721	17	.....	848
Canal.....	10,555	9,575	120	.....	12	.....	.....	.....
U. S. Government.....	148,804	19,402	538	37,705	87,959	3,110	.....	.....
Yacht.....	1,409	787	374	149	31	58	10	.....
All other.....	5,739	5,014	121	.....	238	300	50	18

## MANUFACTURES.

Vessels launched, grouped according to tonnage.—Table 17 shows, by classes, the number and gross tonnage of vessels launched during 1919 and 1916, grouped according to tonnage.

TABLE 17.—VESSELS LAUNCHED, GROUPED ACCORDING TO TONNAGE: 1919 AND 1916.

CLASS.	Census year.	TOTAL.		LESS THAN 100 GROSS TONS.		100 BUT LESS THAN 500 GROSS TONS.		500 BUT LESS THAN 1,000 GROSS TONS.		1,000 BUT LESS THAN 3,000 GROSS TONS.		3,000 GROSS TONS AND OVER.	
		Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.
Total.....	1919	2,033	4,489,800	276	8,906	420	115,434	233	151,480	513	1,145,098	501	3,068,890
	1916	1,377	734,108	610	17,878	503	144,561	141	97,797	49	75,920	74	397,952
Steel.....	1919	1,095	3,734,201	12	508	71	24,203	144	93,098	348	812,999	525	2,803,398
	1916	230	485,860	18	890	95	20,493	21	15,099	22	42,426	74	397,952
Steam and motor.....	1919	1,045	3,695,397	9	338	1 <sup>a</sup> 48	18,655	133	89,964	331	790,116	524	2,709,324
	1916	151	442,991	17	810	30	10,277	10	6,689	14	27,268	74	397,952
Sail.....	1919	3	1,924	-----	-----	1	460	2	1,404	7	14,063	-----	-----
	1916	8	14,191	-----	-----	1	128	-----	-----	-----	-----	-----	-----
Unrigged.....	1919	47	36,880	8 <sup>b</sup> 3	170	22	5,088	4 <sup>c</sup> 9	4,665	12	22,883	1	4,074
	1916	71	28,678	1	80	58	19,088	11	8,410	1	1,100	-----	-----
Wooden.....	1919	938	755,608	264	8,898	340	91,231	89	58,387	170	332,100	66	265,402
	1916	1,147	248,248	502	16,988	408	115,068	120	82,698	27	33,494	-----	-----
Steam and motor.....	1919	399	372,501	180	5,930	85	21,357	8	4,627	74	188,163	43	152,424
	1916	438	29,229	390	9,133	33	6,060	8	6,438	7	7,598	-----	-----
Sail.....	1919	81	78,821	17	299	10	2,255	13	9,203	37	54,564	4	12,600
	1916	116	31,890	77	1,869	12	2,204	17	11,921	10	15,896	-----	-----
Unrigged.....	1919	458	304,186	58	2,169	254	67,610	68	44,557	50	89,373	19	100,468
	1916	593	187,129	125	5,936	363	106,804	95	64,339	10	10,000	-----	-----

<sup>a</sup> Includes 5 concrete vessels, 2,450 gross tons.<sup>b</sup> Includes 2 concrete vessels, 12,674 gross tons.<sup>c</sup> Includes 1 concrete vessel, 10 gross tons.<sup>d</sup> Includes 6 concrete vessels, 3,000 gross tons.

The group "3,000 tons and over" (3,000 tons being virtually the minimum tonnage for oversea trade), shows, in 1916, 5.4 per cent for number and 54.2 per cent for tonnage, as compared with 29.1 per cent and 68.4 per cent, respectively, in 1919. In the first group mentioned only 12 of the vessels were constructed of steel, while in the group of "3,000 tons and over," out of a total of 591 vessels 525 were of steel construction.

Vessels launched, by states.—Table 18 gives, by states, the total number and gross tonnage of all vessels launched in 1919, 1916, and 1914, by establishments in the shipbuilding industry, exclusive of Government shipyards.

Of the total number of vessels launched, of 5 tons and over, New York built the largest number in 1919, as well as in 1916 and 1914, but in total tonnage launched, New York was outranked by Pennsylvania, Washington, New Jersey, and California, in the order named. The combined tonnage of these four states, in 1919, amounted to 2,417,378, or over one-half of the entire tonnage launched in the United States.

The largest average tonnage per vessel, 3,766, was launched in Pennsylvania, closely followed by Oregon and New Jersey, with 3,512 and 3,382 tons, respectively.

Steam vessels launched.—Table 19 shows, by states, the number and the gross and net tonnage of steam vessels of 5 tons and over, launched in private shipyards in 1919, 1916 and 1914.

In 1919 Pennsylvania, New Jersey, Washington, and California led in the order named, and their combined tonnage represented 2,340,807 gross tons, or 58.4 per cent of the total for steam vessels of 5 tons and over, launched in private yards. In 1916 the leading states in respect to tonnage were California, Virginia, Ohio, and Pennsylvania, in the order named.

TABLE 18.—VESSELS LAUNCHED, BY STATES: 1919, 1916, AND 1914.

STATE.	1919		1916		1914	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
United States.....	<sup>a</sup> 2,033	4,489,809	1,377	734,108	<sup>b</sup> 1,113	425,060
Alabama.....	43	62,967	(*)	(*)	(*)	(*)
California.....	162	503,986	118	89,108	88	31,500
Connecticut.....	31	71,922	18	3,365	19	1,995
Delaware.....	21	42,305	44	25,472	10	6,624
Florida.....	62	109,553	45	6,014	22	1,141
Georgia.....	36	38,528	(*)	(*)	(*)	(*)
Indiana.....	13	5,675	(*)	(*)	(*)	(*)
Kentucky.....	8	1,900	65	16,103	51	40,000
Louisiana.....	47	70,909	40	11,974	73	17,501
Maine.....	82	87,804	45	15,486	43	3,072
Maryland.....	104	153,795	65	57,767	53	36,981
Michigan.....	131	208,602	29	38,310	21	12,405
New Jersey.....	180	608,843	75	33,762	65	57,866
New York.....	267	292,445	337	111,709	220	49,911
North Carolina.....	3	345	8	2,288	11	730
Ohio.....	92	184,052	54	74,320	85	36,824
Oregon.....	62	217,759	36	11,652	41	2,405
Pennsylvania.....	178	670,277	128	71,838	56	30,533
Rhode Island.....	7	305	(*)	(*)	(*)	(*)
Texas.....	37	86,404	12	2,265	29	4,293
Virginia.....	33	70,556	36	63,913	24	31,538
Washington.....	195	634,272	69	33,328	102	7,117
West Virginia.....	2	120	(*)	(*)	(*)	(*)
Wisconsin.....	78	105,854	21	13,438	29	3,048
All other states.....	159	200,481	181	51,312	116	49,506

<sup>a</sup> Exclusive of 64 vessels, with an aggregate gross tonnage of 51,970, launched by establishments in other industries.<sup>b</sup> Exclusive of 94 vessels, with an aggregate gross tonnage of 13,654, launched by establishments in other industries.<sup>c</sup> Included in "All other states."

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TABLE 19.—STEAM VESSELS LAUNCHED, BY STATES: 1919, 1916, AND 1914.

STATE.	Num- ber.	1919		1916		1914			
		Tonnage.		Tonnage.		Num- ber.	Tonnage.		
		Gross.	Net.	Gross.	Net.		Gross.	Net.	
United States.....	1,203	4,010,724	2,366,772	186	442,354	297,724	139	234,636	175,084
Alabama.....	11	39,328	22,917	(2)					
California.....	108	459,823	305,677	16	82,766	46,622	9	26,420	17,490
Connecticut.....	19	59,735	39,645	(2)					
Delaware.....	16	38,365	23,517	8	13,985	9,642	8	6,266	3,706
Florida.....	21	92,896	57,930	(2)					
Georgia.....	33	32,852	7,509	(2)					
Louisiana.....	19	56,375	12,406	(2)					
Maine.....	19	40,387	23,436	5	3,417	2,957	5	1,400	1,317
Maryland.....	33	120,900	78,635	13	32,861	20,513	11	27,368	16,704
Michigan.....	126	207,852	121,649	13	35,945	23,303	6	11,612	7,273
New Jersey.....	160	603,543	321,661	6	20,331	12,021	6	41,182	36,137
New York.....	78	187,816	97,648	17	3,281	2,505	19	3,056	1,900
Ohio.....	76	179,246	105,461	17	52,046	41,154	6	26,205	10,778
Oregon.....	47	186,754	115,698	5	4,719	3,209	5	251	171
Pennsylvania.....	123	654,252	417,700	19	49,089	31,407	18	23,547	23,374
Texas.....	14	37,379	22,628	(2)					
Virginia.....	14	60,595	44,086	8	62,778	47,703	7	90,176	22,899
Washington.....	114	593,189	406,131	12	23,919	10,258	8	2,210	1,493
Wisconsin.....	74	104,654	61,730	12	12,415	7,017	6	362	251
All other states.....	98	226,283	77,700	35	44,822	32,423	25	34,072	22,464

<sup>1</sup> Includes 2 concrete vessels, 12,574 gross tons.<sup>2</sup> Included in "All other states."

Motor vessels launched, including sail vessels with auxiliary power, by states.—Table 20 shows, by states, the number and the gross and net tonnage of motor vessels, including sail vessels with auxiliary power, of 5 gross tons and over, launched in private shipyards in 1919, 1916, and 1914.

TABLE 20.—MOTOR VESSELS LAUNCHED, INCLUDING SAIL VESSELS WITH AUXILIARY POWER, BY STATES: 1919, 1916, AND 1914.

STATE.	Census year.	Num- ber.	TONNAGE.	
			Gross.	Net.
United States.....	1919	268	74,928	44,919
	1916	465	60,491	45,261
	1914	428	18,620	9,974
Motor.....	1919	241	57,174	29,585
	1916	403	29,866	19,198
	1914	370	10,821	7,789
Sail with auxiliary power.....	1919	27	17,764	15,354
	1916	62	30,626	26,053
	1914	58	2,799	2,185
California.....	1919	36	17,047	662
	1916	76	3,511	2,003
	1914	70	2,815	1,971
Connecticut.....	1919	7	3,540	25
	1916	10	1,174	1,132
	1914	12	180	127
Florida.....	1919	20	4,203	3,133
	1916	15	104	149
	1914	15	247	177
Louisiana.....	1919	7	712	402
	1916	14	3,017	2,767
	1914	13	1,503	1,301
Maine.....	1919	22	3,170	2,423
	1916	23	1,812	1,469
	1914	34	541	339
Maryland.....	1919	9	166	126
	1916	20	14,997	10,003
	1914	6	194	114
New Jersey.....	1919	16	785	64
	1916	45	1,022	800
	1914	22	1,419	1,256
New York.....	1919	25	3,070	1,827
	1916	72	1,735	1,379
	1914	60	958	653

<sup>1</sup> Includes 5,078 displacement tonnage.<sup>2</sup> Includes 3,600 displacement tonnage.

TABLE 20.—MOTOR VESSELS LAUNCHED, INCLUDING SAIL VESSELS WITH AUXILIARY POWER, BY STATES: 1919, 1916 AND 1914—Continued.

STATE.	Census year.	Num- ber.	TONNAGE.	
			Gross.	Net.
North Carolina.....	1919	2	85	55
	1916	2	81	61
	1914	3	175	121
Ohio.....	1919	1	6	4
	1916	12	11,974	9,424
	1914	6	129	89
Oregon.....	1919	2	36	24
	1916	14	6,205	5,875
	1914	7	317	234
Pennsylvania.....	1919	3	373	335
	1916	5	116	111
	1914	8	66	52
Rhode Island.....	1919	6	205	140
	1916	-----	(2)	-----
	1914	-----	(2)	-----
Texas.....	1919	9	17,031	15,625
	1916	6	1,925	1,566
	1914	9	198	124
Virginia.....	1919	14	401	240
	1916	12	183	180
	1914	11	118	72
Washington.....	1919	47	17,834	13,971
	1916	42	7,584	5,910
	1914	70	2,699	2,032
Wisconsin.....	1919	1	50	30
	1916	7	231	183
	1914	15	413	331
All other states.....	1919	41	10,205	5,773
	1916	90	4,740	2,239
	1914	62	1,558	981

<sup>2</sup> Included in "All other states."

Motor vessels were reported separately for the first time in 1904, at which time they numbered 311, and averaged slightly over 10 gross tons in size. In 1909 their average capacity was 21 tons; in 1914, about 29 tons; in 1916, nearly 75 tons; and in 1919, over 237 tons. The change from 1904 to 1919 in the size of motor craft is due to the building of internal-combus-

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tion engines of larger units, of improved reliability and compactness, making them practical for use in larger vessels. A much smaller number of motor vessels were built in 1919 than in 1916, owing to the fact that the energies of the various shipbuilding establishments were directed to the construction of large steam vessels for freight purposes. While there was a decline in number, there was an increase in total tonnage of 27,308 gross tons.

Sail vessels with auxiliary power launched, by states.—Table 21 shows for 1919, by states, the number and tonnage of sail vessels with auxiliary power, included in motor craft in Table 20.

TABLE 21.—SAIL VESSELS WITH AUXILIARY POWER LAUNCHED, BY STATES: 1919.

STATE.	Number.	TONNAGE.		Census year.	Number.	TONNAGE.	
		Gross.	Net.			Gross.	Net.
Total.....	27	17,754	15,354				
Florida.....	3	2,020	1,491	1919	1,505	341,066	322,294
Maine.....	4	1,343	1,213	1916	664	215,807	197,018
Texas.....	3	2,631	2,425	1914	2,506	174,580	156,397
Washington.....	4	11,126	9,890				
All other states.....	13	634	335				

Sail vessels without auxiliary power launched, by states.—Table 22 gives for the United States, for 1919, 1916, and 1914 and for selected states separately for 1919, the number and the gross and net tonnage of sail vessels, without auxiliary power, of 5 gross tons and over, launched in private shipyards.

TABLE 22.—SAIL VESSELS WITHOUT AUXILIARY POWER LAUNCHED, BY STATES: 1919.

STATE.	Number.	TONNAGE.		Census year.	Number.	TONNAGE.	
		Gross.	Net.			Gross.	Net.
United States.....	1919.....	57	63,091	54,119	1919.....	57	63,091
	1916.....	62	15,468	14,048	1916.....	62	15,468
	1914.....	40	2,224	1,874	1914.....	40	2,224
California.....		4	4,173	3,877			
Connecticut.....		1	1,547	1,388			
Florida.....		4	1,764	1,398			
Georgia.....		2	2,176	1,998			
Maine.....		26	27,501	25,128			
Maryland.....		2	2,147	1,970			
New York.....		2	3,424	3,295			
Oregon.....		1	1,728	1,554			
Texas.....		2	4,450	3,860			
Washington.....		5	11,477	8,113			
All other states.....		8	2,644	2,042			

Unrigged vessels launched, by states.—Table 23 gives for the United States the number and gross and net tonnage of unrigged vessels launched by private shipyards in 1919, 1916, and 1914. Comparative statistics are shown for states where available.

Floating dry docks, floating coal docks, and scows constructed for a single trip are not included in this table. There are, however, a considerable number of sand and mud scows, coal boats and lighters, dredges, and pile drivers included in the statistics.

There were constructed in 1919 about the same number of unrigged vessels as in 1914, but 159 fewer than in 1916. The gross tonnage increased from 174,580 in 1914 to 341,066 in 1919, and the average tonnage per vessel from about 345 to a little over 675.

The principal state in the construction of unrigged craft in 1919, as well as in 1916 and 1914, was New York. Oregon ranked second in 1919 in gross tonnage and Texas third. The states showing increases over 1916, in both number and tonnage, are Louisiana, Maryland, Oregon, and Washington.

TABLE 23.—UNRIGGED VESSELS LAUNCHED, BY STATES: 1919, 1916, AND 1914.

STATE.	Census year.	Number.	TONNAGE.	
			Gross.	Net.
United States .....	1919	1,505	341,066	322,294
	1916	664	215,807	197,018
	1914	2,506	174,580	156,397
Alabama.....	1919	32	23,639	21,660
California.....	1910	14	2,943	2,873
	1916	26	2,881	2,811
	1914	8	2,255	1,910
Connecticut .....	1919	4	7,100	3,740
Delaware.....	1919	5	3,500	1,750
Florida.....	1919	17	10,600	10,529
Indiana.....	1919	13	5,675	5,675
Kentucky.....	1919	7	1,970	1,970
	1916	59	15,880	15,343
	1914	47	39,988	24,988
Louisiana .....	1919	21	13,822	13,563
	1916	19	6,422	6,237
	1914	58	15,848	15,748
Maine.....	1919	15	16,677	15,822
Maryland .....	1919	60	21,582	20,098
	1916	32	9,834	9,834
	1914	39	9,335	9,305
Michigan.....	1919	5	750	750
New Jersey.....	1919	4	4,515	4,515
	1916	20	10,911	10,011
	1914	35	15,225	14,956
New York.....	1919	162	118,135	117,407
	1916	246	106,667	105,186
	1914	138	48,850	45,108
Ohio .....	1919	15	4,800	4,800
	1916	24	7,980	7,626
	1914	23	10,490	9,490
Oregon.....	1919	12	29,241	28,262
	1916	3	580	580
	1914	15	1,815	1,665
Pennsylvania .....	1919	52	15,652	15,622
	1916	103	22,616	7,463
	1914	30	6,920	6,920
Texas .....	1919	12	27,544	26,594
Virginia.....	1919	5	560	560
	1916	16	982	980
	1914	6	1,244	1,244
Washington.....	1919	29	11,772	11,772
	1916	14	623	503
	1914	24	2,199	2,199
Wisconsin.....	1919	3	1,150	1,150
All other states.....	1919	18	19,349	18,092
	1916	102	30,501	29,094
	1914	85	23,422	22,871

<sup>1</sup> Exclusive of 62 vessels with an aggregate gross tonnage of 48,994, launched by establishments in other industries.

<sup>2</sup> Exclusive of 82 vessels with an aggregate gross tonnage of 9,872 tons, launched by establishments in other industries.

<sup>3</sup> Includes 6 concrete vessels 3,000 gross tons.

<sup>4</sup> Includes 1 concrete vessel, 10 gross tons.

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Power boats, less than 5 gross tons, by states.—Table 24 shows, for the United States and for states separately, for 1919 and 1916, the number of power boats built of less than 5 gross tons.

Pennsylvania, New Jersey, and California were the leading states, in the order named, in 1919, in the manufacture of small power boats.

TABLE 24.—POWER BOATS (LESS THAN 5 GROSS TONS), BY STATES: 1919 AND 1916.

STATE.	NUMBER.		STATE.	NUMBER.	
	1919	1916		1919	1916
United States...	1,150	3,606	New York.....	97	337
California.....	108	66	Ohio.....	4	308
Connecticut.....	18	100	Oregon.....	40	(1)
Florida.....	90	157	Pennsylvania.....	164	28
Indiana.....	5	(1)	Rhode Island.....	2	13
Maine.....	57	198	Texas.....	7	(1)
Maryland.....	28	51	Virginia.....	15	21
Michigan.....	50	172	Washington.....	43	52
New Jersey.....	130	187	Wisconsin.....	45	109
			All other states.....	247	1,807

<sup>1</sup> Included in "All other states."

Value of work done.—The construction of a vessel frequently takes more than a year; therefore, many vessels launched during the census year were started in previous years, and some upon which work was started during the census year were not finished during that year. For this reason the Census Bureau did not require the shipbuilders to report the value of the vessels launched, but only the value of the work done during the census year and the amount received for repair work. For the smaller vessels, those of less than 5 gross tons, the value of work done during the year corresponds very closely with the value of the craft launched.

Table 25 shows the value of the construction work done, the amount received for repair work, and the value of all other work done by shipbuilding establishments, both private and Government, in 1919, 1916, 1914, and 1909, and in private establishments in other industries for 1919, 1914, and 1909,

The value of work done during the year on new vessels and boats in all shipyards increased from \$114,434,137 in 1916 to \$1,446,789,596 in 1919. These figures indicate the impetus given the shipbuilding industry by the World War. The value of work done on new vessels of 5 gross tons and over in private establishments amounted to \$105,270,935 in 1916 and \$1,391,688,655 in 1919, an increase of \$1,286,417,720. Repair work amounted to \$183,721,737 in 1919, which was \$120,213,223 in excess of that reported in 1916. All other work done, which includes work on engines and the making of masts, oars, spars, etc., increased from \$17,072,743 in 1916 to \$46,950,869 in 1919. The value of all kinds of work done in Government shipyards shows large increases between 1916 and 1919.

TABLE 25.—VALUE OF WORK DONE: 1919, 1916, 1914, AND 1909.

KIND OF WORK.	Cen-	VALUE.		
		sus-	All estab-	Private es-
year.	lish-	lish-	tabil-	tabil-
Total.....	1910	\$1,865,728,600	\$1,622,361,261	\$3,764,105
	1916	224,526,688	185,852,192	38,674,491
	1914	119,423,028	88,682,071	29,217,265
	1909	100,009,054	73,360,315	25,872,033
Work on new vessels and boats, all kinds.	1919	1,446,789,596	1,391,688,655	51,783,636
	1916	114,434,137	105,270,935	9,103,202
	1914	52,401,805	46,334,134	4,758,041
	1909	45,036,402	42,310,925	2,181,323
Vessels of 5 gross tons and over.	1919	1,439,443,338	1,386,839,158	2,670,433
	1916	110,342,073	101,531,210	8,811,803
	1914	48,105,561	42,645,445	4,612,311
	1909	40,145,084	37,718,018	1,977,077
Boats of less than 5 gross tons.	1910	7,346,258	4,849,497	646,872
	1916	4,031,064	3,739,725	351,330
	1914	4,293,244	3,788,689	175,730
	1909	4,801,408	4,582,907	153,346
Repair work.....	1910	272,358,056	183,721,737	200,400
	1916	71,225,368	63,508,514	7,716,854
	1914	36,066,678	32,535,212	3,945,687
	1909	35,304,058	26,078,043	80,461
All other work done.....	1910	146,580,357	846,050,869	246,400
	1916	38,867,178	17,072,743	21,764,435
	1914	30,054,547	9,512,725	20,483,637
	1909	16,607,904	4,370,747	12,105,156

<sup>1</sup> Not reported in 1910.

<sup>2</sup> Includes work on concrete vessels to the value of \$7,018,055.

<sup>3</sup> Includes work on engines to the value of \$20,447,010.

<sup>4</sup> Includes work on engines to the value of \$3,355,055.

<sup>5</sup> Includes work on engines to the value of \$4,408,703.

<sup>6</sup> Includes work on engines to the value of \$299,270.

<sup>7</sup> Includes work on engines to the value of \$109,141.

Value of work done by private establishments in the shipbuilding industry.—Table 26 shows the total value of the work done in the privately operated shipbuilding establishments in 1919, 1916, 1914, and 1909; the total being subdivided so as to show the value of work on new vessels, the amount received for repair work, and the value of all other work done during the year. Government shipyards and establishments in other industries doing incidental work on ships and boats are not included.

TABLE 26.—VALUE OF WORK DONE BY PRIVATE ESTABLISHMENTS IN THE SHIPBUILDING INDUSTRY: 1919, 1916, 1914, AND 1909.

KIND OF WORK.	VALUE.			
	1919	1916	1914	1909
Total.....	\$1,622,361,261	\$185,852,192	\$88,682,071	\$73,360,315
Work done during the year on new vessels and boats.				
Vessels of 5 gross tons and over.....	1,386,839,158	105,270,935	46,334,134	42,310,925
Steel construction.....	1,289,580,346	85,418,000	36,295,458	30,035,872
Wooden construction.....	110,259,857	16,113,204	6,245,687	7,678,346
Concrete construction.....	7,018,955			
Boats of less than 5 gross tons.....	4,849,497	3,739,725	3,788,689	4,582,907
Steam.....		6,544	30,522	20,800
Motor (gasoline, electric, others).....	1,707,743	1,988,862	2,001,284	3,155,375
Sailboats, rowboats, canoes, etc.....	3,051,749	1,744,319	1,756,883	1,416,732
Repair work.....	183,721,737	63,508,514	32,835,212	26,678,643
Steel.....	130,227,508	44,821,223	20,537,928	18,662,659
Wooden.....	47,494,229	18,087,291	12,297,284	10,815,934
All other work done.....	40,950,869	17,072,743	9,512,725	4,370,747

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Repair work by private establishments, by states.—Table 27 shows, by states, the value of repair work done in the private establishments in the shipbuilding industry for 1919, 1916, 1914, and 1909.

Since 1909, New York has led in the value of repair work, in 1919 the amount done being nearly one-half of the total for the United States. Fifteen of the states shown separately reported repair work in excess of a million dollars in 1919.

TABLE 27.—REPAIR WORK BY PRIVATE ESTABLISHMENTS, BY STATES: 1919, 1916, 1914, AND 1909.

STATE.	AMOUNT RECEIVED.			
	1919	1916	1914	1909
United States.....	\$183,721,737	\$63,508,514	\$32,835,212	\$26,678,643
Alabama.....	2,245,066	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
California.....	12,559,965	3,504,445	3,348,852	2,529,188
Connecticut.....	893,105	927,579	342,972	319,591
Delaware.....	873,704	110,151	177,318	348,539
Florida.....	2,777,261	913,678	516,011	536,584
Georgia.....	444,009	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Indiana.....	83,740	60,074	83,006	70,063
Kentucky.....	302,042	125,246	127,773	85,902
Louisiana.....	2,200,136	1,496,794	433,555	304,738
Maine.....	1,086,220	380,474	434,191	346,635
Maryland.....	12,279,775	3,046,777	1,374,515	985,112
Michigan.....	1,567,132	1,455,258	1,081,206	1,126,544
New Jersey.....	83,033,934	8,313,081	4,200,315	3,123,032
New York.....	72,612,037	23,884,480	10,081,332	6,931,117
North Carolina.....	272,774	92,508	52,600	36,569
Ohio.....	4,493,943	2,125,580	2,058,521	1,324,168
Oregon.....	243,291	152,017	98,201	100,788
Pennsylvania.....	5,004,053	4,249,199	1,512,126	2,531,304
Rhode Island.....	2,002,529	1,197,501	927,833	647,064
Texas.....	793,585	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Virginia.....	13,371,745	3,397,591	1,507,320	1,324,045
Washington.....	5,320,346	1,600,617	1,447,385	880,618
West Virginia.....	221,119	200,884	124,933	130,156
Wisconsin.....	2,130,980	905,884	745,890	1,172,543
All other states.....	6,832,276	5,208,866	2,152,767	1,757,685

<sup>1</sup> Included in "All other states."

Equipment of steam and motor vessels launched.—Over one-half of the steam vessels launched in 1919, as shown by Table 28, were equipped with reciprocating steam engines, and all but 47 of the 241 motor vessels were propelled by gasoline engines. Of the 1,203 steam engines, 300 were fitted for burning oil as fuel.

TABLE 28.—EQUIPMENT OF STEAM AND MOTOR VESSELS LAUNCHED: 1919.

TYPE.	Num- ber.	TYPE.	Num- ber.
Total.....	1,444	Internal-combustion.....	241
Steam engines.....	1,203	Diesel.....	44
Reciprocating.....	731	Gasoline.....	184
Turbine.....	472	All other.....	3
		Oil burners.....	300

Dry docks.—Table 29 shows the number and kind of dry docks in private and Government shipyards, classified according to dimensions, for 1919, 1914, and 1909. Figures for 1916 were not obtained.

TABLE 29.—DRY DOCKS: 1919, 1914, AND 1909.

CLASS.	NUMBER.		
	1919	1914	1909
Total number.....	242	250	216
Stationary:			
Wooden.....	39	62	57
Masonry, concrete, or steel.....	31	21	23
Floating.....	172	107	136
With floor length of—			
Over 300 feet.....	89	67	53
201 to 300 feet.....	23	27	20
101 to 200 feet.....	60	58	70
100 feet or less.....	70	98	73
With entrance width of—			
Over 75 feet.....	61	47	37
51 to 75 feet.....	75	57	54
26 to 50 feet.....	68	109	89
25 feet or less.....	38	37	36
With sill depth of—			
Over 20 feet.....	61	45	30
10 to 20 feet.....	107	108	98
Less than 10 feet.....	74	97	88

Marine railways.—Table 30 shows the number, dimensions, and lifting capacity of marine railways in operation in 1919, 1914, and 1909. Figures for 1916 were not obtained.

Of the 582 marine railways reported in the United States for 1919, 156 had a cradle length of more than 101 feet, 190 had a cradle breadth exceeding 25 feet, and 83 had a lifting capacity of over 500 tons.

TABLE 30.—MARINE RAILWAYS: 1919, 1914, AND 1909.

	NUMBER.		
	1919	1914	1909
Total lifting capacity in tons.....	173,235	129,094	147,081
Total number.....	582	678	696
With cradle length of—			
Over 200 feet.....	46	32	38
101 to 200 feet.....	110	123	110
50 to 100 feet.....	131	185	178
Less than 50 feet.....	295	333	370
With cradle breadth of—			
Over 50 feet.....	23	12	5
25 to 50 feet.....	167	183	126
Less than 25 feet.....	392	533	565
With maximum cradle draft submerged of—			
Over 15 feet.....	53	45	47
11 to 15 feet.....	108	96	86
5 to 10 feet.....	306	411	410
Less than 5 feet.....	115	120	153
With lifting capacity of—			
Over 1,000 tons.....	40	25	22
501 to 1,000 tons.....	43	34	56
100 to 500 tons.....	140	180	172
Less than 100 tons.....	359	439	446

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## GENERAL TABLES.

Comparative summary, by states.—Table 31 gives for 1919, 1916, 1914, and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the shipbuilding industry.

Detailed statement, by states.—Table 32 presents for 1919 statistics in detail for the industry as a whole, for "shipbuilding, steel," and for "shipbuilding, wooden, including boat building," and for each state that can be shown separately without the possibility of disclosing the operations of individual establishments.

TABLE 31.—COMPARATIVE SUMMARY, BY STATES: 1919, 1916, 1914, AND 1909.

STATE.	Cen-sus-year.	Num-ber of estab-lishments.	Wage earners (aver-age num-ber).	Primary horse-power.	Wages.	Cost of mate-rials.	Value of prod-ucts.	STATE.	Cen-sus-year.	Num-ber of estab-lishments.	Wage earners (aver-age num-ber).	Primary horse-power.	Wages.	Cost of mate-rials.	Value of prod-ucts.		
Expressed in thousands.								Expressed in thousands.									
United States....	1919	1,075	387,446	553,711	\$597,447	\$710,523	\$1,022,361	Michigan.....	1919	33	10,541	31,153	\$28,921	\$36,120	\$85,155		
	1916	1,137	72,497	(1)	60,576	89,269	185,852		1916	55	2,225	(1)	1,857	3,120	5,687		
	1914	1,147	44,489	115,333	32,031	38,597	89,682		1914	62	1,261	7,665	1,040	1,250	2,823		
	1909	1,353	40,508	88,063	25,208	31,214	73,360		1909	91	2,344	6,485	1,380	2,400	5,034		
California.....	1919	67	47,630	64,631	66,882	70,620	185,882	New Jersey.....	1919	93	52,307	52,712	79,963	125,553	238,015		
	1916	50	7,113	(1)	7,190	10,245	19,778		1916	76	7,777	(1)	6,576	9,904	20,312		
	1914	62	3,457	4,607	3,100	3,487	8,104		1914	85	6,324	11,944	4,057	5,638	11,861		
	1909	43	1,844	3,120	1,502	1,237	4,132		1909	97	4,809	9,904	3,300	4,249	8,841		
Florida.....	1919	73	11,199	14,097	15,442	18,917	32,602	New York.....	1919	161	33,205	52,767	58,061	41,555	132,012		
	1916	57	1,172	(1)	598	909	1,706		1916	200	9,928	(1)	9,887	11,530	31,358		
Georgia.....	1919	10	4,447	7,856	6,412	8,060	20,944	New York.....	1914	207	6,070	17,364	4,971	5,173	14,195		
	1916	7	216	(1)	153	218	454		1909	255	5,044	13,885	3,780	3,025	11,417		
	1914	4	14	20	8	4	16		1919	18	117	211	97	150	374		
Indiana.....	1919	7	107	354	104	82	315	North Carolina.....	1916	12	141	(1)	54	44	180		
	1916	10	184	(1)	108	291	403		1919	28	11,412	14,219	10,668	23,902	57,483		
	1914	9	225	540	134	207	508		1916	32	6,059	(1)	3,908	6,077	12,160		
	1909	15	253	785	106	243	375		1914	29	2,879	9,661	1,039	1,900	4,717		
Kentucky.....	1919	7	185	340	201	53	330	Ohio.....	1909	39	8,200	8,125	1,705	2,402	5,676		
	1916	17	108	(1)	112	140	279		1919	70	34,576	50,096	50,053	74,046	166,620		
	1914	11	90	104	52	135	222		1916	57	3,744	(1)	3,455	6,508	10,380		
	1909	10	157	524	97	155	271		1914	64	1,444	5,866	1,152	987	3,101		
Louisiana.....	1919	22	5,346	8,558	7,187	6,906	17,598	Washington.....	1909	60	744	2,105	643	562	1,550		
	1916	20	1,300	(1)	784	1,035	2,007		1919	35	7,855	10,591	12,441	20,367	44,164		
Maine.....	1919	82	7,000	8,396	6,800	9,843	24,682	Wisconsin.....	1916	30	1,250	(1)	822	1,612	3,927		
	1916	100	1,857	(1)	1,354	2,570	4,882		1914	34	695	3,875	421	451	1,254		
Maryland.....	1919	42	19,084	20,539	28,887	31,000	67,310	All other states.....	1919	321	136,355	210,592	212,328	241,650	548,915		
	1916	50	5,320	(1)	3,773	5,845	12,208		1916	358	25,031	(1)	19,936	20,217	59,074		
	1914	42	2,408	5,070	1,573	2,102	4,521		1914	648	19,550	47,343	13,788	17,187	37,302		
	1909	40	1,703	6,705	1,098	1,849	3,535		1909	645	18,762	32,870	11,027	13,223	30,620		

<sup>1</sup> Not reported.

## MANUFACTURES.

TABLE 32.—DETAILED STATEMENT,

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.		
								Maximum month.	Minimum month.						

## SHIPBUILDING, INCLUDING BOAT BUILDING.

															Dollars.
1	United States.....	1,075	413,236	810	7,379	12,750	4,830	387,446	Ja 44,683	No 301,172	355,176	353,881	1,060	235	1,389,447,820
2	California.....	67	49,714	59	457	1,160	500	47,530	My 02,138	No 13,354	44,467	44,426	41	—	113,440,683
3	Florida.....	73	11,860	66	217	280	108	11,199	Ja 14,300	De 9,602	10,524	10,493	29	2	46,755,409
4	Georgia.....	10	4,980	1	255	217	60	4,447	Ja 6,170	De 2,392	5,699	5,669	30	—	8,349,576
5	Indiana.....	7	133	4	12	4	6	4,447	De 201	Mh <sup>a</sup> 120	199	198	1	—	605,531
6	Kentucky.....	7	193	4	3	1	—	185	Ap 254	Au 113	219	219	—	—	110,166
7	Louisiana.....	22	5,803	13	99	284	61	5,346	Oc 6,662	Je 4,308	6,008	6,003	5	—	22,312,186
8	Maine.....	82	7,546	66	240	133	107	7,000	Fe 8,425	Oc 5,605	7,141	7,097	28	16	15,307,613
9	Maryland.....	42	20,186	31	222	672	177	19,084	Mh 20,432	Au 17,626	18,122	18,119	1	2	35,358,077
10	Michigan.....	33	17,674	18	453	541	121	16,541	Mh 20,692	De 9,880	20,039	19,977	61	1	24,096,612
11	New Jersey.....	93	55,063	76	946	1,054	580	52,397	Mh 54,393	Je 49,689	50,492	50,095	397	—	248,268,134
12	New York.....	161	35,685	111	742	1,213	824	33,295	Ja 30,842	Oc 24,432	20,102	20,048	37	17	88,604,403
13	North Carolina.....	18	153	22	10	2	2	117	Se 151	Ja 91	125	125	—	—	93,594
14	Ohio.....	28	11,835	20	82	207	114	11,412	My 12,385	De 9,373	10,657	10,636	21	—	51,822,627
15	Washington.....	70	36,424	56	640	803	343	34,676	Ja 48,392	Fe 11,280	23,938	23,894	37	27	126,722,802
16	Wisconsin.....	85	8,443	24	123	342	99	7,855	Se 8,574	De 6,373	6,565	6,565	2	—	17,741,814
17	All other states <sup>b</sup> .....	321	146,954	256	2,872	5,234	2,237	136,355	—	—	121,867	121,317	375	165	594,857,093

## SHIPBUILDING, STEEL.

1	United States.....	162	365,875	21	5,805	11,610	4,335	344,014	My 380,799	No 273,350	309,273	308,078	972	223	1,268,640,254	
2	Alabama.....	4	5,801	—	—	110	347	90	5,254	De 5,752	Fe 4,531	5,752	5,729	23	—	39,286,855
3	California.....	18	48,098	3	421	1,139	483	46,052	My 60,447	No 12,754	42,925	42,925	40	—	108,798,311	
4	Florida.....	5	8,211	—	100	202	71	7,338	Ja 8,533	Je 7,322	7,813	7,793	20	—	38,693,952	
5	Georgia.....	3	3,950	—	229	184	56	3,481	Ap 4,213	Oc 2,155	4,163	4,123	30	—	8,747,755	
6	Louisiana.....	6	3,700	—	66	255	50	3,329	No 4,925	Ja 1,674	4,578	4,575	3	—	10,284,057	
7	Maine.....	6	4,804	5	141	101	72	4,485	Mh 5,125	Oc 3,946	4,499	4,494	20	15	9,270,448	
8	Maryland.....	4	18,142	—	160	605	165	17,212	Ap 18,178	Au 16,127	16,357	16,356	1	—	32,778,735	
9	Michigan.....	7	17,081	1	428	526	110	15,998	Mh 20,209	De 9,460	19,133	19,073	59	1	21,920,080	
10	New Jersey.....	13	53,273	3	861	1,601	557	50,281	Mh 52,467	No 47,402	48,313	47,920	387	—	242,523,813	
11	New York.....	28	27,631	2	345	1,039	284	25,987	Ja 31,875	Oc 18,244	21,755	21,719	19	17	62,491,297	
12	Ohio.....	9	11,566	—	62	205	107	11,192	Mh 12,081	De 9,270	10,407	10,388	19	—	51,177,303	
13	Washington.....	9	30,896	—	545	681	279	29,391	Ja 30,105	Fe 4,714	16,938	16,879	32	27	103,019,540	
14	Wisconsin.....	7	7,105	1	70	295	72	6,658	Oc 7,473	De 6,408	5,498	5,496	2	—	11,602,463	
15	All other states <sup>b</sup> .....	43	125,637	0	2,348	4,430	1,950	116,888	—	—	101,112	100,632	320	160	522,215,605	

## SHIPBUILDING, WOODEN, INCLUDING BOAT BUILDING.

1	United States.....	913	47,361	795	1,481	1,146	504	43,432	Ja 65,841	No 27,822	45,903	45,803	88	12	120,807,566
2	California.....	49	1,616	55	36	30	17	1,478	Ja 2,017	No 600	1,502	1,501	1	—	4,242,372
3	Connecticut.....	30	1,302	32	92	37	29	1,112	Ja 2,486	De 332	1,593	1,591	2	—	7,106,816
4	Florida.....	68	3,649	50	117	78	37	3,381	Ja 5,767	De 1,879	2,711	2,700	9	2	8,185,457
5	Georgia.....	7	1,030	1	26	33	4	966	Ja 2,078	No 199	1,546	1,540	—	—	8,102,121
6	Illinois.....	0	130	8	5	3	1	122	Ja 181	Au 96	141	141	—	—	479,365
7	Iowa.....	5	11	6	—	—	—	5	Se 9	Oc 3	6	6	—	—	33,680
8	Kentucky.....	7	193	4	3	1	—	185	Ap 254	Au 113	219	219	—	—	110,166
9	Louisiana.....	16	2,103	13	33	29	11	2,017	Ja 3,412	De 1,428	1,430	1,428	2	—	3,028,129
10	Maine.....	78	2,742	61	99	32	35	2,515	Fe 3,432	De 1,439	2,642	2,633	8	1	6,537,165
11	Maryland.....	38	2,044	31	62	67	12	1,872	Ja 2,610	Au 1,490	1,765	1,763	2	—	3,079,942
12	Massachusetts.....	55	1,073	50	41	31	23	928	Ja 1,338	Se 543	582	581	1	—	2,573,693
13	Michigan.....	26	613	17	25	15	11	548	Oc 814	Ja 391	906	904	2	—	2,270,552
14	Minnesota.....	21	126	23	7	—	5	91	Ja 115	No 67	109	107	2	—	311,701
15	Mississippi.....	9	303	6	20	29	5	248	Ja 598	Se 65	276	276	—	—	393,765
16	New Jersey.....	80	2,380	73	85	53	23	2,146	Fe 2,302	Mh 1,926	2,179	2,169	10	—	5,744,321
17	New York.....	133	8,054	109	397	180	60	7,308	Ap 8,418	No 6,077	7,347	7,329	18	—	26,113,106
18	North Carolina.....	18	153	22	10	2	2	117	Se 151	Ja 91	125	125	—	—	93,594
19	Ohio.....	19	269	20	20	2	7	220	Fe 335	No 90	250	248	2	—	645,264
20	Oregon.....	30	3,255	23	70	120	52	2,990	Ja 7,830	Oc 674	4,396	4,386	10	—	9,667,360
21	Rhode Island.....	14	291	12	16	7	3	253	De 318	Au 174	325	325	—	—	897,609
22	Texas.....	21	6,375	19	73	170	45	6,008	Fe 9,649	De 8,687	4,900	4,880	15	5	4,781,442
23	Virginia.....	30	1,278	32	44	30	13	1,169	Fe 1,707	No 803	1,603	1,602	1	—	4,087,140
24	Washington.....	67	5,528	56	101	122	64	5,185	Ja 9,287	De 1,628	7,020	7,015	5	—	17,703,262
25	West Virginia.....	6	113	1	9	1	1	101	Ap 122	De 67	109	109	—	—	221,543
26	Wisconsin.....	28	1,938	23	44	47	27	1,197	My 1,545	De 875	1,069	1,069	2	—	6,121,351
27	All other states <sup>b</sup> .....	45	1,378	42	49	27	17	1,243	—	—					

# SHIPBUILDING, INCLUDING BOAT BUILDING.

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BY STATES: 1919.

EXPENSES.									POWER.								
Salaries and wages.			Rent and taxes.			For materials.			Value added by manufacturer.	Primary horsepower.					Electric horsepower generated in establishments reporting.		
Officials.	Clerks, etc.	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.	Owned.		Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>1</sup>	Rent-ed. <sup>2</sup>		
										Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>1</sup>	Rent-ed. <sup>2</sup>			

## SHIPBUILDING, INCLUDING BOAT BUILDING.

Dollars. 32,633,000	Dollars. 32,480,894	Dollars. 597,446,048	Dollars. 10,107,529	Dollars. 3,500,432	Dollars. 47,095,554	Dollars. 694,918,584	Dollars. 15,804,092	Dollars. 1,622,361,261	Dollars. 911,838,585	553,711	79,164	42,036	7,010	71	425,421	51,154	1
2,833,345	3,058,397	66,882,450	133,722	282,975	5,330,238	75,161,514	1,467,185	185,882,234	109,253,585	64,631	1,780	.....	339	.....	62,512	.....	2
810,573	906,772	15,441,902	9,315	79,168	70,328	13,597,796	319,351	32,662,379	18,745,232	14,697	4,907	.....	641	16	8,533	1,046	3
831,192	714,906	6,412,478	.....	30,820	10,014	8,522,342	138,121	20,943,505	12,283,042	7,355	1,715	.....	12	.....	6,123	8	4
26,106	2,822	103,887	150	50	2,230	70,605	4,908	314,665	233,002	354	225	.....	36	.....	93	.....	5
8,784	1,500	200,525	.....	970	1,456	50,803	1,081	330,242	277,398	340	305	.....	35	.....	6	.....	6
434,013	521,232	7,188,985	9,785	28,721	226,822	6,756,550	239,248	17,597,868	10,020,070	8,558	4,171	30	322	.....	4,035	120	7
902,485	322,652	9,800,023	65,502	21,309	485,140	9,577,399	265,441	24,682,253	14,889,413	8,396	909	.....	96	8	7,332	15	8
1,444,510	1,344,434	28,887,100	.....	55,462	1,244,462	30,176,216	824,038	67,300,914	36,300,000	26,530	655	150	110	.....	25,615	.....	9
1,070,510	702,962	28,021,220	.....	21,630	3,750,358	35,488,393	681,855	85,154,702	49,034,454	31,153	3,220	1,200	381	.....	26,352	2,838	10
3,414,674	4,585,103	70,962,957	338,886	1,704,245	5,758,300	123,495,024	2,058,240	238,014,659	112,461,395	52,712	7,442	17,883	546	.....	26,841	20,483	11
3,088,172	2,478,998	6,001,323	1,008,244	202,447	7,084,152	40,119,782	1,435,064	132,012,124	90,457,288	52,767	12,184	150	1,333	35	39,065	8,899	12
23,900	5,800	96,858	6,065	2,024	1,491	146,481	3,291	373,723	224,001	211	35	.....	141	.....	141	.....	13
800,660	625,454	19,608,178	27,412	15,627	1,907,530	23,189,106	732,546	57,482,509	83,580,947	14,210	6,617	10	97	.....	7,495	3,983	14
8,559,676	1,848,915	50,053,323	1,703,158	532,704	7,979,941	72,976,040	1,070,168	160,519,787	92,473,570	50,696	3,849	.....	131	.....	46,716	300	15
808,871	677,424	12,440,675	15,000	32,944	2,248,979	19,090,210	376,513	44,163,746	23,707,023	10,501	3,701	70	6,730	.....	46,730	174	16
12,587,320	15,030,623	212,320,700	6,790,220	407,276	11,613,101	236,664,214	5,988,092	548,910,801	307,266,555	210,592	27,350	22,613	2,861	12	157,747	16,048	17

## SHIPBUILDING, STEEL.

27,159,274	30,102,233	538,372,576	8,205,806	2,858,731	44,641,130	629,800,673	13,913,141	1,456,480,516	812,730,702	475,567	53,808	41,186	2,671	.....	377,862	40,792	1
474,421	600,053	6,904,417	.....	17,456	216,814	6,084,983	222,109	15,909,018	9,602,526	10,000	5,300	10,600	104	.....	3,476	4,616	2
2,093,219	2,993,992	64,520,418	120,016	251,905	5,300,432	73,023,232	1,428,343	170,151,605	104,690,120	61,264	1,025	.....	68	.....	60,171	3	3
528,509	460,079	11,550,078	.....	50,600	41,316	10,443,412	257,550	24,234,126	13,533,164	10,105	3,745	.....	253	.....	6,107	1,935	4
712,500	680,006	4,783,588	.....	28,040	5,039	7,319,326	120,269	17,722,812	10,283,217	6,727	845	.....	12	.....	5,870	5	5
326,080	392,113	6,013,577	9,717	15,473	124,757	4,972,055	117,723	12,432,094	7,342,316	5,717	2,050	30	165	.....	2,572	60	6
477,053	245,051	6,402,134	30,480	7,657	219,256	4,734,651	188,501	14,003,706	9,080,494	4,320	50	.....	4,270	.....	7	.....	7
1,226,052	1,255,719	26,141,571	.....	180	1,182,545	27,518,283	771,570	60,844,131	32,554,278	22,354	175	.....	22,179	.....	8	.....	8
1,006,431	609,223	28,183,839	.....	16,120	3,744,860	34,391,460	655,177	83,124,336	48,077,699	30,047	2,835	1,200	328	.....	25,684	2,838	9
2,063,108	4,423,024	7,845,243	311,058	1,642,461	5,558,794	120,475,063	1,902,178	229,825,670	107,358,429	50,067	5,920	17,883	117	.....	26,147	2,920	10
1,835,078	2,126,014	42,812,289	758,440	98,350	6,215,330	30,271,130	1,023,110	103,461,267	72,167,027	39,396	6,060	150	550	.....	32,030	882	11
762,639	614,644	19,424,220	.....	13,732	1,982,770	22,630,130	723,456	56,481,006	33,128,380	13,717	6,425	.....	15	.....	7,277	3,983	12
2,803,430	1,547,386	48,728,098	223,520	402,869	7,034,062	62,417,992	931,063	140,980,461	77,031,401	30,692	2,216	.....	34,477	.....	13	.....	13
565,603	584,976	11,085,302	15,000	2,226,145	17,102,303	33,627	36,628,337	19,192,307	9,345	3,266	.....	6,070	.....	4,74	.....	14	14
10,783,231	18,445,454	186,405,198	0,721,666	233,417	10,199,110	208,425,653	5,168,400	481,688,297	208,095,244	166,201	13,048	11,243	999	.....	140,911	0,984	15

## SHIPBUILDING, WOODEN, INCLUDING BOAT BUILDING.

5,474,326	2,378,661	59,074,072	1,901,723	647,701	3,054,424	65,108,911	1,660,951	165,871,745	99,101,883	78,144	25,290	870	4,348	71	47,550	1,302	1
140,190	64,405	2,350,032	3,806	81,070	26,806	2,128,282	23,842	6,730,539	4,563,415	3,367	755	.....	271	.....	2,341	.....	2
142,551	64,528	1,254,371	4,469	9,352	9,373	928,620	48,731	2,924,031	1,330,680	2,024	1,018	10	233	12	1,351	3	3
282,004	146,083	3,885,284	9,315	28,568	35,012	3,154,384	61,801	8,428,253	5,212,008	3,092	1,162	.....	388	16	2,426	11	4
118,692	84,800	1,028,890	.....	2,780	4,075	1,203,010	17,582	3,220,603	1,999,825	1,128	870	.....	253	8	2,426	8	5
18,871	10,237	119,573	.....	4,832	1,926	200,189	5,956	461,225	246,080	355	166	9	180	.....	6	7	6
8,734	4,539	30	120	530	15,756	291	36,936	20,889	26	4	16	.....	6	.....	35	8	8
107,933	128,119	2,173,408	68	11,248	102,065	1,764,495	121,625	5,165,774	3,250,754	2,841	1,221	.....	157	.....	1,463	60	9
424,532	77,001	3,397,890	29,103	13,712	215,590	4,842,748	70,880	10,678,647	5,758,019	4,070	859	96	8	3,107	16	10	10
217,558	85,715	2,745,629	.....	55,302	61,917	3,093,356	24,806	1,028,301	610,199	635	437	11	187	1	1,16	1	16
127,																	

## POWER LAUNDRIES.

**General character of the industry.**—Laundries are not classed as manufacturing establishments, but many laundries are conducted according to factory methods, and the industry has reached such proportions during recent years that it is an industrial factor. It was therefore decided to make a canvass of the industry at the census of 1909, and the canvass was continued at the censuses of 1914 and 1919. This report is confined to power laundries. Hand laundries, so called, or laundries operated without power, are not included. At the census of 1909 the industry was designated as "Steam laundries."

**Comparison with earlier censuses.**—The large increase in salaries and wages, 1914 to 1919, as shown in Table 1, is due chiefly to changes in industrial conditions and to higher wages. As a measure of industrial growth the number of wage earners is probably the best index, the increase from 1914 to 1919 being a little less than 1 per cent, as compared with 19.3 per cent for the period 1909–1914. In 1909 the average wage, as deduced from the statistics, was \$409 per wage earner. In 1914 it had increased to \$455 and in 1919 the average was \$704. Labor is the chief expense factor, and in 1919 the expense for salaries and wages was equal to 48.9 per cent of the amount received for work done as compared with 50.4 per cent in 1914 and 50.6 per cent in 1909. This ratio has been fairly constant. The expense for materials is relatively small as compared with labor, and the figure for "value added by manufacture," which is the value of products less cost of materials, has no significance. In 1919 fuel and rent of power constituted 25.8 per cent of the cost of materials, and in 1914, 25.9 per cent.

**Summary, by states.**—Comparative statistics are presented in Table 2 for the chief factors, i. e., number of establishments, number of persons engaged in the industry, and the amount received for work done, by geographic divisions and states, together with the urban population for the census years 1919, 1914, and 1909. The industry is largely confined to cities and towns, and hence it is thought that the urban population of the country, the same being taken for places of 8,000 inhabitants or more, is a better basis for population comparison than the total population of the states, and is therefore used in this presentation. The table shows the number of places of 8,000 inhabitants or more in the respective states,

and the rank of the states with respect to the several items. The states are grouped by geographic divisions so as to bring together those operating under similar industrial conditions, and this arrangement has been followed with most of the tables. Every state is represented by a sufficient number of establishments to permit of the statistics being given therefor. In 1909 the average amount received for work done per unit of urban population was \$2.77. In 1914 this average was \$3.60 and in 1919 it was \$5.02, the increase being of course due largely to enhanced costs and values. The highest ratio of amount received for work done to unit of urban population was in the Mountain division, \$13.19, followed by the Pacific division with \$11.29, and the West South Central with \$7.55. A number of states show decreases in number of persons employed, notably Delaware, New Hampshire, Vermont, and Pennsylvania.

**Persons engaged in the industry.**—The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." The classification by sex for 1919 was reported separately, but for 1914 and 1909 it was obtained in the same manner as the distribution by age. Figures for states will be found in Table 12.

**Wage earners, by months.**—The statistics for wage earners in Table 4 are intended to show the steadiness of employment, or the reverse, in accordance with the industrial conditions existing during the several census years. For the country as a whole, females constituted 70.7 per cent of the average number of wage earners employed during the year and males 29.3 per cent. The leading states with respect to the employment of female labor, irrespective of age limitations, are Vermont with 78.4 per cent; Wyoming, 77.3 per cent; Alabama and Oklahoma each with 75.6 per cent.

**Prevailing hours of labor.**—The statistics presented in Table 5 show progress towards a reduction in hours of labor. In 1909 but 8.4 per cent of the wage earners were in the group of 48 hours per week or less, and 34.4 per cent were in the groups of 60 hours per week and over. In 1914 these percentages had shifted to 22.6 per cent of all wage earners for groups 48 hours per week or less and 10.8 per cent for 60 hours per week and over; and in 1919, 46.4 per cent for 48 hours per week or less and only 4.3 per cent for 60 hours per week and over.

Size of establishments, by amount received for work done.—A classification of the establishments by income, or amount received for work done, is given in Table 6. The inflation of values on account of the World War has necessarily resulted in a shift to higher groups of establishments, which otherwise have not materially changed in status.

Size of establishments, by average number of wage earners.—The group "6 to 20 wage earners" of Table 7, which classifies the establishments by size groups, has the largest number of establishments, 37 per cent of the total in 1919, 40 per cent in 1914, and 42 per cent in 1909. The distribution of the establishments by size groups based upon average number of wage earners has not varied greatly.

Character of ownership.—Table 8 shows that in most states the bulk of the business, whether measured by wage earners or by income, is under corporate ownership, though in the New England states, with the exception of Massachusetts, in the majority of the West North Central states, and in a few states in the South Atlantic, South Central and the Mountain divisions, individual and "All other" forms of ownership (the latter comprising chiefly firms) report the majority of the business.

Statistics for cities.—Table 9 gives comparative statistics for 1919 and 1914 for cities of 10,000 inhabitants or more, census of 1920, reporting three or more establishments.

Number and horsepower of types of prime movers.—Table 10 gives the total horsepower reported for the industry in 1919, as compared with 1914. This shows an increase of 12.5 per cent due almost entirely to purchased electric power, the rating of owned primary movers increasing but 444 horsepower, while the increase in rented power was 21,468 horsepower, of which 19,232 horsepower was electric. The percentage ratio of total electric power (which includes that owned as well as that purchased) to total primary power was 38.3 in 1919 as compared with 25.2 in 1914 and 19.4 in 1909.

Fuel consumed.—Table 11 shows the consumption of fuel, by kinds, for 1919, 1914, and 1909, and by states for 1919 and 1914. The figures for gas include both manufactured and natural gas. In certain states, notably Ohio, Kansas, West Virginia, Kentucky, Arkansas, Louisiana, Oklahoma and Texas it is chiefly or entirely natural gas.

Table 12 presents for 1919 the statistics in detail for all states, grouped by geographic divisions.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, AND 1909.

	1919	1914	1909	PER CENT OF INCREASE. <sup>1</sup>	
				1914-1919	1909-1914
Number of establishments.....	5,678	6,097	5,186	-6.9	17.6
Persons engaged.....	152,680	149,100	124,214	2.3	20.0
Proprietors and firm members.....	5,514	6,397	5,560	-13.8	15.1
Salaried employees.....	15,170	12,062	9,170	25.8	31.5
Wage earners (average number).....	131,870	130,641	100,484	0.9	10.3
Primary horsepower.....	190,703	174,881	123,477	12.5	41.6
Capital.....	\$153,805,207	\$98,055,001	\$68,935,226	56.9	42.2
Salaries and wages.....	115,597,022	71,764,050	53,007,747	61.1	85.4
Salaries.....	22,698,185	12,292,815	8,180,769	84.6	50.3
Wages.....	92,898,837	59,471,244	44,826,978	56.2	32.7
Paid for contract work.....	1,554,304	374,448	239,090	315.2	56.8
Rent and taxes.....	6,730,569	4,104,038	2,770,871	64.0	47.8
Cost of materials.....	53,502,177	26,910,200	17,696,360	98.8	52.1
Amount received for work done.....	\$236,382,369	142,503,253	104,680,086	65.9	36.1

<sup>1</sup> A minus sign (-) denotes decrease.<sup>2</sup> In addition, laundry work to the amount of \$319,288 was reported by manufacturers of clothing, shirts, ice, etc.

## MANUFACTURES.

TABLE 2.—COMPARATIVE STATISTICS: URBAN POPULATION AND LAUNDRIES, BY DIVISIONS AND STATES, WITH STATE RANK: 1919, 1914, AND 1909.

DIVISION AND STATE.	Census year.	POPULATION.			POWER LAUNDRIES.								
		Places of 8,000 or more, number.	Urban. <sup>1</sup>		Establishments.	Persons engaged in the industry.			Amount received for work done.				
			Number.	State rank.		Number.	State rank.	Number.	Per cent of increase. <sup>2</sup>	State rank.	Amount.	Per cent of increase. <sup>2</sup>	State rank.
UNITED STATES.....	1919	950	47,110,807	.....	5,678	.....	152,569	2.3	.....	.....	\$236,382,369	65.9	.....
	1914	775	39,534,205	.....	6,097	.....	149,100	20.0	.....	.....	142,503,253	36.1	.....
	1909	779	37,847,807	.....	5,186	.....	124,214	.....	.....	.....	104,680,083	.....	.....
NEW ENGLAND.....	1919	151	5,447,404	.....	708	.....	13,782	-7.2	.....	.....	21,462,585	52.6	.....
	1914	134	4,792,762	.....	791	.....	14,849	29.0	.....	.....	14,060,578	45.1	.....
	1909	135	4,488,646	.....	599	.....	11,608	.....	.....	.....	9,688,878	.....	.....
Maine.....	1919	13	252,109	33	81	19	1,144	4.3	34	1,514,854	53.2	35	.....
	1914	11	214,830	32	92	20	1,097	14.7	33	939,021	34.3	35	.....
	1909	11	201,848	30	78	20	956	.....	31	736,367	.....	35	.....
New Hampshire.....	1919	10	214,104	34	61	24	708	-18.1	41	968,856	33.0	40	.....
	1914	9	191,820	34	74	23	864	22.4	38	728,733	40.5	38	.....
	1909	9	183,480	33	61	24	708	.....	37	518,660	.....	38	.....
Vermont.....	1919	6	75,095	40	28	34	364	-17.5	46	399,668	10.4	48	.....
	1914	5	63,663	42	41	35	441	28.9	44	362,041	48.5	45	.....
	1909	5	61,711	42	32	35	342	.....	44	243,753	.....	45	.....
Massachusetts.....	1919	75	3,247,063	5	340	5	7,960	-10.2	6	12,884,279	48.5	5	.....
	1914	70	2,935,269	4	391	5	8,861	33.1	5	8,861,830	60.5	5	.....
	1909	71	2,760,958	4	280	5	6,655	.....	6	5,754,672	.....	5	.....
Rhode Island.....	1919	13	532,408	20	70	21	1,272	-9.3	31	2,154,652	70.9	39	.....
	1914	12	489,037	18	66	27	1,402	15.8	28	1,260,942	23.7	30	.....
	1909	12	466,863	18	53	27	1,311	.....	28	1,019,404	.....	24	.....
Connecticut.....	1919	37	1,126,025	12	128	16	2,934	6.9	22	3,580,276	68.9	20	.....
	1914	27	898,184	11	127	17	2,184	33.3	17	2,108,011	48.9	19	.....
	1909	27	809,779	11	95	18	1,638	.....	21	1,416,122	.....	29	.....
MIDDLE ATLANTIC.....	1919	220	15,151,031	.....	1,017	.....	27,774	-11.4	.....	.....	46,070,130	63.8	.....
	1914	176	13,203,334	.....	1,152	.....	31,344	10.7	.....	.....	28,120,707	24.7	.....
	1909	170	12,347,263	.....	1,005	.....	28,312	.....	.....	.....	22,557,774	.....	.....
New York.....	1919	65	8,230,100	1	535	2	13,757	-11.2	1	24,627,441	72.2	1	.....
	1914	59	7,360,302	1	614	1	15,489	10.1	1	14,304,984	25.0	1	.....
	1909	58	6,854,327	1	508	1	14,003	.....	1	11,446,663	.....	1	.....
New Jersey.....	1919	48	2,172,190	6	131	14	4,061	0.9	11	7,001,621	97.5	11	.....
	1914	37	1,833,372	6	142	16	4,024	20.7	11	3,560,739	20.2	13	.....
	1909	37	1,692,610	6	112	16	3,384	.....	12	2,779,277	.....	12	.....
Pennsylvania.....	1919	107	4,748,642	2	351	4	9,956	-15.8	4	14,351,068	40.4	4	.....
	1914	83	4,099,160	2	396	4	11,831	8.4	4	10,225,004	22.7	4	.....
	1909	83	3,800,316	2	385	3	10,915	.....	3	8,831,834	.....	4	.....
EAST NORTH CENTRAL.....	1919	223	11,600,805	.....	1,247	.....	33,108	-1.1	.....	.....	51,789,815	62.7	.....
	1914	186	9,390,646	.....	1,315	.....	33,493	21.1	.....	.....	31,834,504	38.5	.....
	1909	186	8,179,660	.....	1,230	.....	27,657	.....	.....	.....	22,988,922	.....	.....
Ohio.....	1919	64	3,328,337	4	277	6	8,316	-1.4	5	12,528,844	60.2	6	.....
	1914	52	2,676,454	5	296	6	8,434	24.5	6	7,522,491	45.2	6	.....
	1909	52	2,290,808	5	253	6	6,773	.....	5	6,388,954	.....	6	.....
Indiana.....	1919	39	1,273,203	10	158	11	4,328	0.5	10	5,588,748	51.2	13	.....
	1914	35	1,030,128	10	174	13	4,307	30.2	10	3,697,112	51.0	12	.....
	1909	35	894,434	10	163	11	3,308	.....	13	2,448,355	.....	13	.....
Illinois.....	1919	55	3,944,757	3	470	3	12,189	-2.3	3	20,606,032	60.4	3	.....
	1914	43	3,376,082	3	461	3	12,470	14.2	2	12,846,432	27.8	3	.....
	1909	43	3,064,164	3	448	2	10,916	.....	2	10,049,446	.....	2	.....
Michigan.....	1919	40	2,050,776	7	197	7	5,746	1.9	9	9,416,373	84.1	8	.....
	1914	33	1,424,852	8	234	7	5,637	30.2	8	5,115,286	56.8	9	.....
	1909	33	1,130,305	9	219	7	4,328	.....	8	3,261,841	.....	9	.....
Wisconsin.....	1919	25	1,005,732	13	145	12	2,529	-4.4	17	3,650,118	55.1	16	.....
	1914	23	883,030	12	150	14	2,645	13.4	16	2,383,183	27.9	15	.....
	1909	23	799,961	12	147	13	2,332	.....	16	1,840,327	.....	16	.....
WEST NORTH CENTRAL.....	1919	90	3,788,495	.....	713	.....	18,133	1.1	.....	.....	27,396,421	55.8	.....
	1914	73	3,250,839	.....	821	.....	17,939	12.6	.....	.....	17,532,715	30.5	.....
	1909	74	3,021,777	.....	738	.....	18,934	.....	.....	.....	13,478,046	.....	.....
Minnesota.....	1919	16	876,532	14	156	12	3,818	-5.1	13	6,087,088	48.4	12	.....
	1914	12	751,169	14	188	9	4,024	20.6	11	4,100,464	43.6	11	.....
	1909	12	694,378	13	158	12	3,338	.....	11	2,855,738	.....	11	.....
Iowa.....	1919	21	636,695	17	120	15	2,406	-14.5	20	3,904,658	35.5	14	.....
	1914	19	589,425	17	176	12	2,883	16.8	15	2,882,005	39.7	14	.....
	1909	19	487,596	17	181	8	2,408	.....	14	2,063,451	.....	14	.....
Missouri.....	1919	17	1,398,187	9	165	10	6,830	1.2	7	9,438,493	49.4	7	.....
	1914	15	1,273,276	9	177	11	6,757	10.5	7	6,316,206	28.8	7	.....
	1909	15	1,202,834	8	171	10	6,113	.....	7	4,904,249	.....	7	.....
North Dakota.....	1919	3	47,124	44	29	33	488	2.1	44	844,433	42.4	43	.....
	1914	2	30,899	46	30	39	478	-5.0	42	592,843	8.1	39	.....
	1909	2	27,011	45	34	34	503	.....	40	548,175	.....	37	.....

<sup>1</sup> Population of incorporated places (municipalities) for 1919 as of July 1, 1920; for 1914, July 1, 1914; and for 1909 as of July 1, 1910.<sup>2</sup> A minus sign (-) denotes decrease.

## POWER LAUNDRIES.

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TABLE 2.—COMPARATIVE STATISTICS: URBAN POPULATION AND LAUNDRIES, BY DIVISIONS AND STATES, WITH STATE RANK: 1910, 1914, AND 1909—Continued.

DIVISION AND STATE.	Census year.	POPULATION.			POWER LAUNDRIES.							
		Places of 8,000 or more, number.	Urban. <sup>1</sup>		Establishments.		Persons engaged in the industry.			Amount received for work done.		
			Number.	State rank.	Number.	State rank.	Number.	Per cent of increase. <sup>2</sup>	State rank.	Amount.	Per cent of increase. <sup>2</sup>	State rank.
WEST NORTH CENTRAL—Con.												
South Dakota.....	1910	5	67,031	42	29	33	542	19.4	42	\$940,179	96.9	42
	1914	2	31,415	45	26	42	454	1.6	43	477,474	12.0	42
	1909	3	33,507	43	28	37	447	.....	41	423,062	.....	41
Nebraska.....	1910	8	313,624	29	69	22	1,710	14.8	28	2,823,234	86.0	25
	1914	7	255,390	29	74	23	1,490	13.4	27	1,617,024	26.8	24
	1909	7	232,831	20	76	21	1,314	.....	25	1,197,374	.....	23
Kansas.....	1910	20	449,302	24	136	13	2,270	22.5	23	3,358,336	98.0	21
	1914	16	369,269	25	150	14	1,853	5.8	24	1,695,739	14.1	20
	1909	16	343,620	24	138	14	1,751	.....	18	1,485,967	.....	19
SOUTH ATLANTIC.....	1910	81	3,590,017	.....	351	.....	13,746	20.0	.....	18,211,883	104.1	.....
	1914	61	2,771,797	.....	360	.....	11,457	31.4	.....	8,926,073	52.0	.....
	1909	61	2,471,230	.....	310	.....	8,710	.....	.....	5,871,732	.....	.....
Delaware.....	1910	1	111,248	39	6	41	300	-18.7	48	444,005	82.8	40
	1914	1	96,501	41	12	48	389	30.4	46	242,887	29.9	47
	1909	1	87,041	41	15	45	283	.....	46	187,058	.....	47
Maryland.....	1910	5	820,430	15	46	28	1,888	-1.7	25	2,040,086	89.7	26
	1914	5	663,792	15	54	29	1,921	28.3	23	1,301,902	40.1	26
	1909	5	617,083	15	41	32	1,497	.....	24	993,766	.....	27
District of Columbia.....	1910	1	443,056	25	21	38	1,805	33.0	27	2,559,210	150.1	27
	1914	1	377,236	24	18	44	1,351	23.3	30	1,028,475	28.6	33
	1909	1	332,175	25	17	44	1,096	.....	30	795,999	.....	31
Virginia.....	1910	12	565,451	18	63	23	2,674	36.1	15	3,000,759	107.0	23
	1914	10	440,485	22	71	25	1,665	29.0	22	1,453,912	44.9	25
	1909	10	383,314	22	57	26	1,523	.....	23	1,003,101	.....	26
West Virginia.....	1910	11	273,834	31	44	29	1,057	13.8	36	1,775,349	125.9	34
	1914	10	201,336	33	44	32	920	17.2	36	785,782	35.0	37
	1909	10	173,940	34	43	29	793	.....	35	581,865	.....	35
North Carolina.....	1910	18	352,770	27	56	26	1,031	22.2	30	2,252,100	119.4	29
	1914	12	230,002	30	59	28	1,335	44.5	31	1,026,358	83.3	32
	1909	12	200,481	31	43	29	924	.....	32	559,949	.....	36
South Carolina.....	1910	9	201,740	34	28	34	723	23.0	38	533,801	97.5	44
	1914	6	154,349	38	23	43	588	33.6	40	422,212	56.0	44
	1909	6	136,080	36	24	41	440	.....	42	209,112	.....	44
Georgia.....	1910	15	553,056	19	52	26	2,522	25.6	18	3,216,832	97.1	22
	1914	11	441,324	21	43	33	2,008	31.7	20	1,632,221	62.1	23
	1909	11	391,986	21	42	31	1,525	.....	22	1,006,724	.....	25
Florida.....	1910	9	287,832	32	35	32	1,146	15.6	33	1,480,051	56.4	36
	1914	5	166,772	35	45	31	991	55.3	35	946,314	99.6	34
	1909	5	148,030	35	28	37	698	.....	38	474,088	.....	39
EAST SOUTH CENTRAL.....	1910	42	1,480,738	.....	182	.....	8,028	10.9	.....	9,687,736	65.2	.....
	1914	35	1,277,101	.....	210	.....	7,241	20.3	.....	5,893,673	39.5	.....
	1909	35	1,103,182	.....	204	.....	6,018	.....	.....	4,201,927	.....	.....
Kentucky.....	1910	13	482,428	22	63	23	2,591	24.2	16	2,905,346	74.4	24
	1914	11	443,733	20	75	22	2,086	19.3	18	1,665,979	37.8	22
	1909	11	432,851	19	73	22	1,749	.....	19	1,208,811	.....	21
Tennessee.....	1910	8	467,188	23	59	25	3,041	4.9	14	3,039,602	58.5	17
	1914	7	389,902	23	67	28	2,898	21.2	14	2,296,797	39.8	16
	1909	7	356,516	23	63	23	2,392	.....	15	1,643,407	.....	17
Alabama.....	1910	11	394,889	25	37	31	1,084	7.3	29	2,196,118	61.4	30
	1914	8	315,304	27	41	35	1,569	23.2	26	1,360,688	49.7	28
	1909	8	281,037	27	38	33	1,274	.....	27	909,130	.....	29
Mississippi.....	1910	10	145,283	37	23	37	712	3.5	39	946,670	75.2	41
	1914	9	128,162	39	27	41	688	14.1	39	540,209	22.6	41
	1909	9	124,778	38	30	38	608	.....	39	440,579	.....	40
WEST SOUTH CENTRAL.....	1910	44	2,193,317	.....	343	.....	11,558	24.7	.....	10,553,772	70.0	.....
	1914	49	1,630,755	.....	367	.....	9,266	36.6	.....	9,218,107	54.8	.....
	1909	49	1,403,065	.....	290	.....	6,782	.....	.....	5,054,350	.....	.....
Arkansas.....	1910	8	187,482	36	49	27	1,045	3.4	37	1,393,024	66.5	37
	1914	6	133,140	38	53	30	1,011	18.9	34	836,457	22.3	36
	1909	6	120,233	39	45	28	860	.....	33	684,036	.....	34
Louisiana.....	1910	7	508,541	21	24	36	1,837	34.2	26	2,349,774	97.4	28
	1914	6	450,264	19	28	40	1,369	22.6	29	1,190,148	39.7	31
	1909	6	416,593	20	25	40	1,117	.....	29	852,021	.....	30
Oklahoma.....	1910	15	351,774	28	99	17	2,355	44.3	21	3,561,059	113.3	19
	1914	10	216,613	31	101	18	1,682	25.4	25	1,669,721	39.4	21
	1909	10	188,530	32	93	19	1,301	.....	26	1,197,978	.....	22
Texas.....	1910	34	1,165,520	11	171	9	6,321	20.3	8	9,249,915	67.5	9
	1914	27	839,738	13	185	10	5,264	49.5	9	5,521,841	71.5	8
	1909	27	680,709	14	127	15	3,514	.....	9	3,220,315	.....	10

<sup>1</sup> Population of incorporated places (municipalities) for 1910 as of July 1, 1920; for 1914, July 1, 1914; and for 1909 as of July 1, 1910.<sup>2</sup> A minus sign (−) denotes decrease.

## MANUFACTURES.

TABLE 2.—COMPARATIVE STATISTICS: URBAN POPULATION AND LAUNDRIES, BY DIVISIONS AND STATES, WITH STATE RANK: 1919, 1914 AND 1909—Continued.

DIVISION AND STATE.	Census year.	POPULATION.			POWER LAUNDRIES.						
		Places of 8,000 or more, number.	Urban. <sup>1</sup>		Establishments.		Persons engaged in the industry.			Amount received for work done.	
			Number.	State rank.	Number.	State rank.	Number.	Per cent of increase. <sup>2</sup>	State rank.	Amount.	Per cent of increase. <sup>2</sup>
MOUNTAIN.....	1919	31	853,858		281		6,932	21.2		\$11,330,923	32.5
	1914	25	716,090		270		5,721	18.7		6,550,610	70.6
	1909	26	656,736		211		4,819			5,011,855	
Montana.....	1919	6	118,183	38	49	27	1,002	18.7	35	1,894,356	49.6
	1914	6	106,003	40	42	34	920	27.2	37	1,266,552	35.4
	1909	6	99,165	40	26	39	723		36	935,260	28
Idaho.....	1919	4	53,569	43	40	30	652	27.8	42	1,179,846	99.0
	1914	2	32,402	44	36	37	510	24.4	41	592,749	50.4
	1909	2	26,816	46	24	41	410		43	394,228	42
Wyoming.....	1910	3	35,062	45	23	37	412	94.3	45	763,953	220.9
	1914	2	21,189	47	18	44	212	4.4	48	238,048	9.8
	1909	3	28,111	44	14	46	203		47	216,847	46
Colorado.....	1919	8	382,528	26	92	18	2,470	18.8	19	3,759,849	73.8
	1914	7	345,151	26	94	19	2,079	0.1	10	2,163,263	9.2
	1909	7	329,439	26	99	17	2,078		17	1,980,693	15
New Mexico.....	1910	1	15,370	46	16	39	326	10.0	47	432,270	54.2
	1914	1	12,813	48	15	47	274	63.1	47	280,373	79.2
	1909	1	11,120	48	8	48	108		48	156,419	49
Arizona.....	1910	4	69,714	41	21	38	598	57.8	43	987,438	131.8
	1914	3	44,804	43	17	46	379	22.7	45	426,999	15.4
	1909	3	26,703	47	13	47	309		45	369,282	43
Utah.....	1910	4	172,357	35	27	35	1,213	1.3	32	1,973,166	44.3
	1914	3	141,764	37	36	37	1,197	47.6	32	1,367,433	72.2
	1909	3	128,321	37	22	43	811		34	794,091	32
Nevada.....	1910	1	12,075	47	13	40	169	12.7	49	340,036	57.3
	1914	1	11,364	49	12	48	150	26.1	49	216,193	31.0
	1909	1	11,001	49	5	49	119		49	165,037	49
PACIFIC.....	1910	45	3,000,142		836		19,508	9.7		38,879,804	66.5
	1914	36	2,402,041		802		17,790	23.0		20,347,228	36.3
	1909	37	2,080,150		551		14,465			14,926,002	
Washington.....	1919	11	650,681	16	177	8	4,082	7.7	12	7,336,715	72.6
	1914	10	584,323	16	102	8	3,744	0.3	13	4,251,620	11.4
	1909	10	540,708	16	172	9	3,731		10	3,814,825	8
Oregon.....	1910	4	303,248	30	73	20	2,253	14.4	24	3,629,983	69.1
	1914	4	265,205	28	78	21	1,969	17.6	21	2,146,868	36.7
	1909	5	252,016	28	58	25	1,674		20	1,569,982	13
California.....	1910	30	2,040,213	8	586	1	18,223	9.5	2	22,012,606	64.3
	1914	22	1,552,513	7	532	2	12,077	33.3	3	18,048,738	46.2
	1909	22	1,287,436	7	321	4	9,060		4	9,541,795	3

<sup>1</sup> Population of incorporated places (municipalities) for 1910 as of July 1, 1920; for 1914, July 1, 1914; and for 1909 as of July 1, 1910.<sup>2</sup> A minus sign (—) denotes decrease.

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Cen-sus year.	Total.	Male.	Female.	PER CENT OF TOTAL.	CLASS.	Cen-sus year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
All classes.....	1919	152,569	53,150	99,419	34.8	Clerks and other subordinate salaried employees.	1919	10,223	4,809	5,414	47.0	53.0
	1914	149,100	54,373	94,727	36.5		1914	7,582	3,604	4,278	45.7	54.3
	1909	124,214	42,382	81,832	34.1		1909	6,151	2,837	3,814	46.1	53.9
Proprietors and officials.....	1910	10,467	9,688	779	92.6	Wage earners (average number)....	1919	131,870	38,653	93,226	29.3	70.7
	1914	10,577	9,869	708	93.3		1914	130,641	40,000	89,741	31.3	68.7
	1909	8,579	8,065	514	94.0		1909	109,484	31,480	78,004	28.8	71.2
Proprietors and firm members..	1910	5,514	5,100	414	92.5	16 years of age and over.....	1919	131,219	38,393	92,826	29.3	70.7
	1914	6,397	5,916	481	92.5		1914	130,053	40,747	89,306	31.3	68.7
	1909	5,500	5,212	348	93.7		1909	108,543	31,214	77,329	28.8	71.2
Salaried officers of corporations..	1910	2,071	1,940	131	93.7	Under 16 years of age.....	1919	660	260	400	39.4	60.6
	1914	1,866	1,547	119	92.9		1914	588	163	435	26.0	74.0
	1909	1,069	1,016	53	95.0		1909	941	266	675	28.4	71.6
Superintendents and managers..	1910	2,882	2,648	234	91.9							
	1914	2,514	2,406	108	95.7							
	1909	1,950	1,837	113	94.2							

## POWER LAUNDRIES.

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TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES: 1919.

[The month of maximum employment for each state is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

DIVISION AND STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.											Per cent minimum is of maximum.	
		Janu-	Febru-	March.	April.	May.	June.	July.	August.	Septem-	Octo-	Novem-	Decem-	
UNITED STATES:														
1919.....	131,870	128,821	<b>128,829</b>	129,305	129,569	130,449	132,032	134,919	134,747	133,503	133,041	133,380	134,153	95.5
Males.....	88,653	87,317	<b>87,480</b>	87,945	88,055	88,205	88,685	89,161	89,245	88,240	89,275	89,569	89,859	93.6
Females.....	93,226	91,504	<b>91,149</b>	91,460	91,514	92,244	93,447	95,758	95,502	94,263	93,766	93,811	94,294	95.2
1914.....	130,641	128,479	<b>127,847</b>	128,525	129,716	131,393	133,865	134,969	134,078	132,512	129,992	128,320	128,004	94.7
1909.....	100,434	105,748	103,937	104,970	106,422	108,140	111,313	114,211	114,533	113,738	111,500	110,470	110,805	90.6
NEW ENGLAND:														
Maine.....	993	814	833	934	914	970	1,025	1,154	1,199	1,094	1,012	975	992	87.9
New Hampshire.....	616	566	577	578	581	593	638	683	688	688	633	595	591	82.3
Vermont.....	324	302	308	308	313	317	328	357	380	338	321	318	318	83.0
Massachusetts.....	6,821	<b>6,880</b>	6,600	6,738	6,781	6,851	6,925	6,051	6,093	6,848	6,833	6,889	6,843	95.7
Rhode Island.....	1,035	980	991	994	998	1,029	1,053	1,078	1,057	1,058	1,059	1,083	1,080	90.9
Connecticut.....	2,024	1,948	1,956	1,950	1,902	2,010	2,052	2,084	2,069	2,092	2,074	2,051	2,042	93.1
MIDDLE ATLANTIC:														
New York.....	11,998	11,724	<b>11,071</b>	11,772	11,801	11,952	12,092	12,298	12,383	12,114	11,750	12,276	12,193	94.6
New Jersey.....	3,581	3,456	<b>3,434</b>	3,478	3,528	3,526	3,589	3,760	3,783	3,701	3,595	3,643	3,570	90.8
Pennsylvania.....	8,584	8,497	8,500	8,521	8,528	8,575	8,600	8,637	8,575	8,524	8,677	8,718	8,641	97.5
EAST NORTH CENTRAL:														
Ohio.....	7,040	6,956	<b>6,023</b>	6,928	6,929	6,981	7,037	7,192	7,054	7,004	7,128	7,135	7,233	95.7
Indiana.....	3,568	3,609	<b>3,566</b>	3,577	3,617	3,618	3,640	3,513	3,487	3,488	3,535	3,655	3,681	93.4
Illinois.....	10,570	10,472	10,588	10,636	10,605	10,588	10,619	10,702	10,600	10,461	10,541	10,499	10,628	97.7
Michigan.....	4,913	4,687	<b>4,577</b>	4,602	4,843	4,922	5,093	5,238	5,211	5,052	4,985	4,836	4,971	87.4
Wisconsin.....	2,123	2,101	2,110	2,104	2,070	2,105	2,119	2,150	2,148	2,132	2,137	2,132	2,132	96.3
WEST NORTH CENTRAL:														
Minnesota.....	3,277	3,225	3,245	3,266	3,200	3,266	3,303	3,340	3,294	3,210	3,289	3,290	3,350	95.8
Iowa.....	2,074	2,075	2,058	2,079	2,103	2,012	2,056	2,140	2,043	2,106	2,075	2,067	2,040	94.0
Missouri.....	6,997	6,980	<b>5,937</b>	5,962	5,937	5,910	6,000	6,048	6,044	6,016	6,020	6,035	6,085	97.6
North Dakota.....	428	377	379	391	420	429	487	494	459	449	438	433	446	82.1
South Dakota.....	469	438	440	451	450	452	473	489	500	495	487	462	491	87.6
Nebraska.....	1,471	1,397	1,408	1,414	1,432	1,448	1,458	1,502	1,504	1,513	1,580	1,616	1,632	91.2
Kansas.....	1,959	1,881	1,882	1,905	1,924	1,947	1,966	2,024	1,999	2,007	1,999	1,980	2,004	92.9
SOUTH ATLANTIC:														
Delaware.....	284	283	284	270	283	280	293	281	285	289	283	285	286	94.2
Maryland.....	1,019	1,009	1,621	1,603	1,605	1,623	1,625	1,630	1,632	1,605	1,610	1,614	1,639	97.8
District of Columbia.....	1,055	1,699	1,650	1,662	1,605	1,631	1,623	1,709	1,636	1,618	1,708	1,666	1,655	93.8
Virginia.....	2,367	2,260	2,282	2,316	2,281	2,331	2,377	2,428	2,475	2,438	2,419	2,380	2,417	91.3
West Virginia.....	920	882	888	891	886	882	886	934	906	953	907	962	89.1	
North Carolina.....	1,433	1,370	1,392	1,377	1,417	1,411	1,444	1,469	1,407	1,404	1,440	1,450	1,485	91.5
South Carolina.....	625	610	613	614	608	595	615	628	626	626	626	626	604	88.5
Georgia.....	2,194	2,078	<b>2,007</b>	2,137	2,103	2,100	2,160	2,215	2,315	2,243	2,276	2,353	2,275	87.8
Florida.....	983	1,081	1,054	955	878	829	917	925	907	959	1,013	1,117	78.6	
EAST SOUTH CENTRAL:														
Kentucky.....	2,294	<b>2,240</b>	2,246	2,315	2,272	2,297	2,283	2,301	2,333	2,301	2,272	2,345	2,323	95.5
Tennessee.....	2,693	2,695	2,682	<b>2,657</b>	2,646	2,673	2,728	2,783	2,740	2,697	2,671	2,675	2,670	95.0
Alabama.....	1,462	1,487	1,450	1,440	1,447	1,451	1,234	1,301	1,484	1,499	1,566	1,573	1,502	81.6
Mississippi.....	634	611	617	612	622	616	634	661	656	647	644	652	636	92.4
WEST SOUTH CENTRAL:														
Arkansas.....	937	951	943	916	<b>910</b>	914	921	932	960	973	962	981	931	93.5
Louisiana.....	1,005	1,529	1,545	1,570	1,578	1,597	1,612	1,621	1,652	1,644	1,637	1,638	1,637	92.6
Oklahoma.....	1,094	1,887	1,903	1,929	1,945	1,972	2,001	2,059	2,051	2,085	2,056	2,029	2,011	90.5
Texas.....	5,488	5,110	<b>5,072</b>	5,128	5,212	5,281	5,351	5,677	5,739	5,750	5,771	5,719	5,808	87.3
MOUNTAIN:														
Montana.....	971	905	969	952	936	937	972	1,020	1,007	1,008	959	955	961	91.5
Idaho.....	571	545	559	551	555	573	585	602	591	585	580	574	572	89.5
Wyoming.....	357	327	382	327	341	347	369	383	395	391	362	368	359	82.3
Colorado.....	2,086	1,969	1,902	<b>1,956</b>	1,977	2,006	2,108	2,286	2,286	2,193	2,104	2,085	2,120	85.6
New Mexico.....	292	250	<b>253</b>	265	261	269	304	307	328	323	315	319	316	77.1
Arizona.....	539	519	508	513	534	550	549	583	548	538	549	546	552	90.4
Utah.....	1,040	1,013	1,052	1,020	1,034	1,006	1,041	1,059	1,085	1,080	1,043	1,043	1,045	92.7
Nevada.....	148	151	148	144	145	165	151	150	154	145	145	143	148	91.6
PACIFIC:														
Washington.....	3,539	3,404	3,448	<b>3,400</b>	3,431	3,481	3,480	3,587	3,673	3,658	3,630	3,620	3,666	92.7
Oregon.....	2,033	<b>1,933</b>	1,976	1,987	1,969	2,019	2,059	2,098	2,127	2,104	2,021	2,033	2,055	91.1
California.....	11,204	11,219	11,118	11,029	<b>11,009</b>	11,003	11,252	11,530	11,378	11,304	11,381	11,297	11,528	95.5

## MANUFACTURES.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, BY DIVISIONS AND STATES: 1919 AND 1914.

DIVISION AND STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48 <sup>1</sup>	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
UNITED STATES.....	1919	131,870	11,221	8,533	41,413	31,765	28,271	5,001	5,354	321
	1914	130,641	(2)	(2)	20,515	24,385	49,700	12,879	13,953	209
	1909	109,484	(2)	(2)	9,210	17,285	20,790	24,564	36,884	745
NEW ENGLAND.....	1919	11,813	1,017	593	5,630	1,802	1,201	601	52	2
Maine.....	1919	903	94	34	83	238	520	14	10	.....
	1914	930	(2)	(2)	61	159	317	104	287	2
New Hampshire.....	1919	616	68	5	138	228	151	15	11	.....
	1914	760	(2)	(2)	228	116	161	226	29	.....
Vermont <sup>2</sup> .....	1919	324	37	6	76	6	90	82	25	2
Massachusetts.....	1919	6,821	1,252	413	4,714	279	180	.....	3	.....
	1914	7,771	(2)	(2)	1,376	1,674	4,373	318	30	.....
Rhode Island.....	1919	1,035	244	31	276	436	48	.....	.....	.....
	1914	1,192	(2)	(2)	171	154	836	11	20	.....
Connecticut.....	1919	2,024	222	110	352	615	232	490	3	.....
	1914	1,913	(2)	(2)	427	390	406	611	76	3
MIDDLE ATLANTIC.....	1919	24,163	3,568	2,188	5,416	8,341	4,241	213	192	5
New York.....	1919	11,998	1,991	990	3,743	3,378	1,796	66	31	3
	1914	13,751	(2)	(2)	2,061	1,518	9,011	812	349	.....
New Jersey.....	1919	3,581	755	500	611	1,140	463	54	58	.....
	1914	3,642	(2)	(2)	689	1,057	604	643	669	.....
Pennsylvania.....	1919	8,554	822	698	1,061	3,823	1,982	93	103	2
	1914	10,410	(2)	(2)	1,750	3,019	5,205	405	25	6
EAST NORTH CENTRAL.....	1919	28,223	2,029	2,037	4,180	11,795	5,840	1,462	849	22
Ohio.....	1919	7,040	338	653	1,134	4,239	589	44	43	.....
	1914	7,265	(2)	(2)	995	1,741	4,383	64	82	.....
Indiana.....	1919	3,568	311	233	372	1,133	1,155	292	69	3
	1914	3,750	(2)	(2)	469	978	1,071	1,046	130	66
Illinois.....	1919	10,579	848	938	1,529	4,180	1,780	689	593	8
	1914	11,004	(2)	(2)	898	2,111	1,982	2,947	3,052	14
Michigan.....	1919	4,913	211	87	868	1,503	2,055	67	122	.....
	1914	4,002	(2)	(2)	711	1,106	2,951	49	82	3
Wisconsin.....	1919	2,123	321	126	286	731	281	370	17	11
	1914	2,265	(2)	(2)	209	576	565	689	226	.....
WEST NORTH CENTRAL.....	1919	15,673	1,063	949	3,151	4,025	5,847	340	208	.....
Minnesota.....	1919	3,277	442	158	1,583	738	322	16	18	.....
	1914	3,494	(2)	(2)	785	933	1,516	54	206	.....
Iowa.....	1919	2,074	136	256	302	475	619	170	24	.....
	1914	2,518	(2)	(2)	134	306	1,182	287	600	.....
Missouri.....	1919	5,997	143	418	404	1,424	3,411	.....	197	12
	1914	5,890	(2)	(2)	1,093	1,186	2,061	8	39	.....
North Dakota <sup>2</sup> .....	1919	426	103	10	248	32	18	.....	6	.....
South Dakota <sup>2</sup> .....	1919	469	50	.....	117	219	40	.....	43	.....
Nebraska.....	1919	1,471	48	57	151	757	323	132	3	.....
	1914	1,303	(2)	(2)	178	207	700	32	11	.....
Kansas.....	1919	1,059	139	41	256	380	1,114	22	7	.....
	1914	1,607	(2)	(2)	313	286	623	131	254	.....
SOUTH ATLANTIC.....	1919	12,080	363	387	2,780	2,370	2,857	1,106	2,049	168
Delaware <sup>2</sup> .....	1919	284	.....	4	9	110	117	44	.....	.....
Maryland.....	1919	1,619	66	72	176	517	443	230	100	.....
	1914	1,715	(2)	(2)	92	446	105	525	547	.....
District of Columbia.....	1919	1,655	168	91	1,253	18	125	.....	.....	.....
	1914	1,217	(2)	(2)	1,217	.....	.....	.....	.....	.....
Virginia.....	1919	2,367	112	.....	653	384	536	137	377	168
	1914	1,694	(2)	(2)	124	163	202	420	785	.....
West Virginia.....	1919	920	3	85	207	317	194	34	80	.....
	1914	827	(2)	(2)	80	97	265	183	199	3
North Carolina.....	1919	1,433	12	17	159	323	388	117	417	.....
	1914	1,165	(2)	(2)	23	110	201	149	682	.....
South Carolina <sup>2</sup> .....	1919	625	.....	.....	80	85	256	120	84	.....
Georgia.....	1919	2,194	.....	54	85	487	542	418	608	.....
	1914	1,776	(2)	(2)	30	142	239	40	1,325	.....
Florida.....	1919	983	2	64	158	129	256	.....	374	.....
	1914	864	(2)	(2)	154	105	151	35	341	78

<sup>1</sup> Includes 48 and under for 1914 and 1909.<sup>2</sup> Corresponding figures not available.<sup>3</sup> Not published in 1914.

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TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, BY DIVISIONS AND STATES: 1919 AND 1914—Continued.

DIVISION AND STATE.	CENSUS YEAR.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under. <sup>1</sup>	Between 44 and 48. <sup>2</sup>	48. <sup>1</sup>	Between 48 and 54. <sup>2</sup>	54. <sup>1</sup>	Between 54 and 60. <sup>2</sup>	60. <sup>1</sup>	Over 60. <sup>2</sup>
EAST SOUTH CENTRAL.....	1919	7,083	236	178	806	1,440	1,966	1,227	1,230	.....
Kentucky.....	1919	2,294	117	21	146	653	652	335	370	.....
	1914	1,873	(*)	(*)	255	331	457	473	357	.....
Tennessee.....	1919	2,693	108	73	337	475	793	840	72	4
	1914	2,580	(*)	(*)	358	259	572	1,223	164	.....
Alabama.....	1919	1,402	.....	64	320	189	299	48	542	.....
	1914	1,388	(*)	(*)	95	176	243	427	447	.....
Mississippi.....	1919	634	16	20	3	123	222	4	246	.....
	1914	607	(*)	(*)	99	82	177	24	220	6
WEST SOUTH CENTRAL.....	1919	10,004	262	458	2,003	1,573	5,196	.....	416	6
Arkansas.....	1919	937	19	24	291	30	501	72	.....	.....
	1914	882	(*)	(*)	148	104	288	40	263	.....
Louisiana.....	1919	1,605	107	27	62	796	311	.....	302	.....
	1914	1,243	(*)	(*)	168	37	238	.....	800	.....
Oklahoma.....	1919	1,094	26	107	244	244	1,382	5	.....	6
	1914	1,416	(*)	(*)	223	217	810	56	110	.....
Texas.....	1919	5,468	110	300	1,496	503	3,022	37	.....	.....
	1914	4,605	(*)	(*)	978	967	2,282	96	332	.....
MOUNTAIN.....	1919	6,004	523	351	4,183	321	552	22	68	4
Montana.....	1919	971	75	.....	890	3	.....	3	.....	.....
	1914	819	(*)	(*)	288	85	434	12	.....	.....
Idaho <sup>3</sup> .....	1919	571	16	10	162	36	325	22	.....	.....
Wyoming <sup>3</sup> .....	1919	357	52	18	210	64	4	.....	.....	.....
Colorado.....	1919	2,088	244	198	1,382	151	61	46	4	4
	1914	1,759	(*)	(*)	1,683	18	71	3	.....	.....
New Mexico <sup>3</sup> .....	1919	292	9	30	153	.....	90	.....	10	.....
Arizona <sup>3</sup> .....	1919	589	15	31	401	23	69	.....	.....	.....
Utah.....	1919	1,040	99	64	839	38	.....	20	.....	.....
	1914	1,070	(*)	(*)	90	430	521	.....	.....	.....
Nevada <sup>3</sup> .....	1919	148	13	.....	117	9	.....	9	.....	.....
PACIFIC.....	1919	16,836	1,260	1,386	13,177	98	571	30	200	114
Washington.....	1919	3,530	546	324	2,488	127	.....	6	48	.....
	1914	3,398	(*)	(*)	2,912	108	165	113	.....	.....
Oregon.....	1919	2,033	368	413	1,187	14	42	.....	9	.....
	1914	1,745	(*)	(*)	235	727	768	15	.....	.....
California.....	1919	11,264	346	649	9,502	84	402	30	104	57
	1914	10,416	(*)	(*)	6,510	1,736	1,708	66	389	7

<sup>1</sup> Includes 48 and under for 1914 and 1909.<sup>2</sup> Corresponding figures not available.<sup>3</sup> Not published in 1914.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AMOUNT RECEIVED FOR WORK DONE: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			AMOUNT RECEIVED FOR WORK DONE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	5,678	6,097	5,186	131,870	130,641	109,484	\$230,382,309	\$142,503,253	\$104,680,086
Less than \$5,000.....	797	1,458	1,341	1,390	3,976	4,268	2,566,542	4,130,136	3,770,904
\$5,000 to \$20,000.....	2,061	2,756	2,359	14,429	28,064	27,522	23,517,026	20,074,763	26,027,062
\$20,000 to \$100,000.....	2,236	1,630	1,346	69,490	63,915	56,605	101,783,300	69,077,362	54,883,004
\$100,000 and over.....	584	253	140	56,570	34,086	21,089	108,509,601	40,220,092	21,489,526
PER CENT DISTRIBUTION.									
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	14.0	23.9	25.9	1.1	3.0	3.9	1.1	2.0	3.0
\$5,000 to \$20,000.....	36.3	45.2	45.5	10.9	21.5	25.1	9.9	20.4	28.9
\$20,000 to \$100,000.....	39.4	20.7	26.0	45.1	48.9	51.7	43.1	48.5	52.0
\$100,000 and over.....	10.3	4.2	2.7	42.0	26.6	19.3	45.9	28.2	20.5

## MANUFACTURES.

TABLE 7.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, BY DIVISIONS AND STATES: 1919.

DIVISION AND STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—														
	Estab- lish- ments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		Over 250 wage earners.		
			Estab- lish- ments.	Estab- lish- ments.	Wage earners.	Estab- lish- ments.	Wage earners.	Estab- lish- ments.	Wage earners.	Estab- lish- ments.	Wage earners.	Estab- lish- ments.	Wage earners.	Estab- lish- ments.	Wage earners.		
UNITED STATES....1919..	5,678	131,879	167	1,538	4,472	2,111	25,110	1,201	39,203	478	33,947	171	24,516	12	4,571		
.....1914..	6,097	130,641	165	1,663	5,129	2,400	27,570	1,175	37,844	441	30,522	180	26,405	13	4,171		
NEW ENGLAND.....	708	11,813	10	228	651	304	3,562	118	3,808	41	2,980	7	812	.....	.....		
Maine.....	81	993	1	40	129	30	350	4	109	6	405	.....	.....	.....	.....		
New Hampshire.....	61	616	1	19	49	35	380	5	133	1	54	.....	.....	.....	.....		
Vermont.....	28	324	.....	12	32	13	189	2	47	1	56	.....	.....	.....	.....		
Massachusetts.....	340	6,821	6	82	246	154	1,806	69	2,274	22	1,682	7	812	.....	.....		
Rhode Island.....	70	1,05	.....	30	97	20	253	10	361	4	324	.....	.....	.....	.....		
Connecticut.....	128	2,024	2	45	98	46	584	28	884	7	458	.....	.....	.....	.....		
MIDDLE ATLANTIC.....	1,017	24,103	35	306	877	338	8,905	224	7,385	76	5,333	34	5,076	4	1,497		
New York.....	535	11,998	26	176	499	178	2,004	99	3,320	37	2,524	15	2,084	4	1,497		
New Jersey.....	131	3,581	3	33	99	42	495	34	1,097	13	891	6	999	.....	.....		
Pennsylvania.....	351	8,584	6	97	270	118	1,406	91	2,988	26	1,918	13	2,013	.....	.....		
EAST NORTH CENTRAL.....	1,247	28,223	35	343	924	475	5,017	256	8,605	102	7,268	35	5,231	1	578		
Ohio.....	277	7,040	5	66	192	119	1,300	50	1,760	28	1,937	8	1,204	1	578		
Indiana.....	158	3,568	2	39	115	64	747	38	1,316	11	772	4	619	.....	.....		
Illinois.....	470	10,579	12	127	318	170	2,160	95	3,113	44	3,147	13	1,841	.....	.....		
Michigan.....	107	4,913	6	64	177	61	877	41	1,395	15	1,007	10	1,567	.....	.....		
Wisconsin.....	145	2,123	10	47	122	52	673	32	1,013	4	315	.....	.....	.....	.....		
WEST NORTH CENTRAL.....	713	15,673	24	187	576	265	3,261	160	5,135	62	4,384	15	2,327	.....	.....		
Minnesota.....	156	3,277	5	53	163	48	578	29	852	17	1,143	4	541	.....	.....		
Iowa.....	129	2,074	4	41	127	48	567	29	588	7	442	.....	.....	.....	.....		
Missouri.....	165	5,907	5	19	48	57	727	47	1,594	28	2,104	9	1,524	.....	.....		
North Dakota.....	20	426	.....	8	24	15	184	0	218	.....	.....	.....	.....	.....	.....		
South Dakota.....	20	460	.....	10	28	20	128	8	226	1	87	2	262	.....	.....		
Nebraska.....	69	1,471	3	17	56	20	345	19	689	2	139	.....	.....	.....	.....		
Kansas.....	136	1,959	7	39	130	61	722	22	638	7	460	.....	.....	.....	.....		
SOUTH ATLANTIC.....	351	12,080	3	48	168	125	1,535	110	3,614	41	2,893	23	3,310	1	670		
Delaware.....	6	284	.....	1	4	2	19	1	44	.....	.....	2	217	.....	.....		
Maryland.....	46	1,019	1	6	20	17	204	13	422	5	346	4	627	.....	.....		
District of Columbia.....	21	1,655	.....	.....	3	46	6	221	5	387	7	1,001	.....	.....	.....		
Virginia.....	63	2,307	1	4	12	28	379	19	573	9	665	1	168	1	570		
West Virginia.....	44	920	1	10	28	15	151	14	443	4	298	.....	.....	.....	.....		
North Carolina.....	55	1,433	7	20	29	25	287	15	479	8	508	1	130	.....	.....		
South Carolina.....	28	625	4	13	10	10	111	13	449	1	52	.....	.....	.....	.....		
Georgia.....	52	2,194	8	19	15	14	194	17	578	5	362	7	1,041	.....	.....		
Florida.....	35	983	8	33	10	144	12	405	4	276	1	126	.....	.....	.....		
EAST SOUTH CENTRAL.....	182	7,083	.....	13	43	50	771	68	2,156	32	2,140	7	975	3	998		
Kentucky.....	63	2,294	.....	.....	23	21	304	23	664	14	862	3	464	.....	.....		
Tennessee.....	59	2,693	5	17	21	11	240	17	564	11	812	3	403	2	651		
Alabama.....	37	1,462	4	12	11	147	14	447	6	401	1	108	1	347	.....	.....	
Mississippi.....	23	634	4	14	4	74	14	481	1	65	.....	.....	.....	.....	.....	.....	
WEST SOUTH CENTRAL.....	343	10,004	.....	66	242	138	1,741	82	2,590	42	3,145	14	1,917	1	363		
Arkansas.....	49	937	10	37	25	306	11	383	3	211	.....	.....	.....	.....	.....	.....	
Louisiana.....	24	1,005	4	10	3	41	4	131	7	495	5	556	1	363	.....	.....	
Oklahoma.....	99	1,994	25	87	44	506	23	667	7	674	.....	.....	.....	.....	.....	.....	
Texas.....	171	5,408	27	99	66	828	44	1,415	25	1,765	9	1,361	.....	.....	.....	.....	
MOUNTAIN.....	281	6,004	5	60	222	118	1,383	58	1,783	24	1,632	7	984	.....	.....	.....	
Montana.....	49	971	2	15	48	13	142	15	471	4	310	.....	.....	.....	.....	.....	
Idaho.....	40	571	10	39	20	248	10	284	.....	.....	.....	.....	.....	.....	.....	.....	
Wyoming.....	23	357	1	2	6	16	190	3	106	1	55	.....	.....	.....	.....	.....	
Colorado.....	92	2,086	1	28	85	35	388	15	472	9	616	4	527	.....	.....	.....	
New Mexico.....	16	202	2	5	11	8	150	2	71	1	66	.....	.....	.....	.....	.....	
Arizona.....	21	539	2	11	8	103	8	244	3	181	.....	.....	.....	.....	.....	.....	
Utah.....	27	1,040	1	5	13	9	110	4	113	5	347	3	457	.....	.....	.....	
Nevada.....	13	148	5	15	6	54	1	22	1	57	.....	.....	.....	.....	.....	.....	
PACIFIC.....	836	16,836	55	278	779	289	3,255	125	4,181	58	4,172	29	3,884	2	565		
Washington.....	177	3,539	15	48	130	65	784	32	1,047	17	1,280	2	208	.....	.....	.....	
Oregon.....	73	2,038	1	14	34	31	356	13	390	10	756	4	497	.....	.....	.....	
California.....	586	11,264	39	218	615	103	2,115	80	2,744	31	2,136	23	3,089	2	565	.....	.....

## POWER LAUNDRIES.

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TABLE 8.—CHARACTER OF OWNERSHIP, BY DIVISIONS AND STATES: 1919 AND 1914.

DIVISION AND STATE.	Cen-sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—	AVERAGE NUMBER OF WAGE EARNERS.						AMOUNT RECEIVED FOR WORK DONE.										
			Total.	In establishments owned by—			Per cent of total.			Total.	In establishments owned by—			Per cent of total.					
				Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.		Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.			
				Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.		Individ-uals.	Cor-pora-tions.	All oth-ers.	Individ-uals.	Cor-pora-tions.	All oth-ers.			
UNITED STATES...	1919	2,807	1,608	1,173	131,879	33,973	77,815	20,091	25.8	69.0	15.2	\$236,382,369	\$57,781,020	\$143,048,526	\$35,552,814	24.5	60.5	15.0	
	1914	3,125	1,541	1,431	130,641	34,344	73,135	23,162	26.3	56.0	17.7	142,503,253	35,800,083	82,653,996	24,040,174	25.1	58.0	16.9	
	1909	2,770	1,158	1,258	109,482	32,754	55,485	21,245	29.0	50.7	19.4	104,680,080	30,320,840	54,111,978	20,247,268	29.0	51.7	19.3	
NEW ENGLAND.....	1919	426	143	139	11,818	4,514	5,209	2,000	38.2	44.9	10.9	21,462,585	8,003,802	8,844,057	3,614,636	37.3	45.0	16.8	
	1914	489	139	143	12,944	5,191	5,537	2,216	40.1	42.8	17.1	14,060,578	5,521,248	6,183,346	2,355,984	30.3	44.0	16.6	
Maine.....	1919	61	11	9	993	507	218	178	60.1	22.0	17.9	1,514,854	988,820	323,106	202,928	65.3	21.3	13.4	
	1914	62	13	17	930	569	211	150	61.2	22.7	16.1	939,021	575,208	204,195	159,618	61.3	21.7	17.0	
New Hampshire....	1919	50	1	10	616	483	-----	133	78.4	-----	-----	968,850	750,401	-----	1212,455	78.1	-----	-----	
	1914	57	4	13	760	542	59	159	71.8	7.8	20.0	728,733	496,906	69,101	162,726	68.2	9.5	22.3	
Vermont.....	1919	22	1	5	324	233	-----	191	71.9	-----	-----	399,668	300,290	-----	109,378	75.1	-----	19.5	
	1914	34	-----	7	378	294	-----	84	77.8	-----	-----	382,041	291,345	-----	70,695	80.5	-----	-----	
Massachusetts.....	1919	180	92	68	6,821	2,105	3,671	1,045	30.9	53.8	15.3	12,864,279	3,077,875	6,952,371	1,934,033	30.9	54.0	15.0	
	1914	219	87	85	7,771	2,591	3,911	1,269	33.4	50.3	16.3	8,661,830	2,884,039	4,428,293	1,361,500	33.3	51.1	15.6	
Rhode Island.....	1919	45	8	17	1,035	402	395	238	38.8	38.2	23.0	2,154,652	724,200	862,845	567,807	33.6	40.0	26.3	
	1914	41	7	18	1,192	411	499	282	34.5	41.0	23.6	1,260,942	441,046	535,686	284,210	35.0	42.5	22.5	
Connecticut.....	1919	68	30	30	2,024	694	984	346	34.3	48.6	17.1	3,560,276	1,256,306	1,665,863	638,107	35.3	46.8	17.9	
	1914	76	28	23	1,913	784	857	272	41.0	44.8	14.2	2,108,011	832,704	948,073	327,234	39.5	45.0	15.5	
MIDDLE ATLANTIC.....	1919	621	297	199	24,163	6,311	14,710	3,142	26.1	60.0	13.0	46,070,130	10,761,504	20,789,030	5,509,596	23.4	64.7	12.0	
	1914	627	267	258	27,803	7,711	15,272	4,820	27.7	54.9	17.3	28,120,707	7,509,420	15,031,145	4,680,130	26.7	56.7	16.6	
New York.....	1919	281	158	96	11,998	2,940	7,677	1,381	24.5	64.0	11.5	24,627,441	5,119,734	17,034,878	2,472,829	20.8	69.2	10.0	
	1914	345	138	131	13,751	3,636	8,227	1,885	26.5	59.8	13.7	14,304,964	3,602,556	8,668,304	1,074,104	25.6	60.6	13.3	
New Jersey.....	1919	57	52	22	3,581	581	699	2,465	417	19.5	68.8	11.6	7,901,621	1,264,134	5,002,687	824,830	17.8	70.5	11.6
	1914	68	50	24	3,642	846	2,268	628	23.2	62.3	14.5	3,590,730	777,587	2,301,089	511,403	21.7	64.1	14.2	
Pennsylvania.....	1919	183	87	81	8,584	2,072	4,568	1,344	31.1	53.2	15.7	14,351,068	4,377,036	7,761,496	2,211,037	30.5	54.1	15.4	
	1914	214	79	103	10,410	3,226	4,777	2,407	31.0	45.9	23.1	10,225,004	3,069,286	4,961,155	2,104,503	30.0	48.5	21.5	
EAST NORTH CENTRAL.....	1919	626	372	249	28,223	6,277	17,410	4,536	22.2	61.7	16.1	51,789,615	10,677,229	32,717,780	8,394,006	20.5	63.2	16.2	
	1914	656	349	310	29,186	7,001	16,513	5,672	24.0	56.6	19.4	31,834,504	7,234,388	18,612,310	5,987,806	22.7	58.5	18.8	
Ohio.....	1919	129	84	64	7,040	1,263	4,504	1,273	17.9	64.0	18.1	12,528,344	2,070,103	8,113,330	2,344,911	16.5	64.8	18.7	
	1914	133	83	80	7,265	1,450	4,477	1,338	20.0	61.6	18.4	7,822,491	4,908,232	1,404,183	1,420,076	18.2	62.7	19.1	
Indiana.....	1919	80	45	33	3,568	909	2,133	526	25.5	59.8	14.7	5,588,748	1,582,289	3,284,642	721,817	28.3	58.8	12.9	
	1914	85	53	36	3,760	1,025	2,136	589	27.3	57.0	15.7	3,697,112	1,011,204	2,157,063	528,785	27.4	58.3	14.3	
Illinois.....	1919	235	159	76	10,579	2,476	6,696	1,407	23.4	63.3	18.3	20,606,032	4,448,575	13,645,583	2,511,919	21.6	66.2	12.2	
	1914	239	130	92	11,004	2,938	6,248	1,818	23.7	60.8	16.5	12,846,432	3,282,293	7,504,788	2,059,788	25.6	58.4	16.0	
Michigan.....	1919	103	45	49	4,913	1,067	2,808	1,038	21.7	57.2	21.1	9,416,373	1,612,654	5,482,263	2,321,450	17.1	58.2	24.7	
	1914	120	43	62	4,902	1,097	2,293	1,512	22.4	46.8	30.8	5,115,286	1,019,899	2,616,599	1,478,783	19.9	51.2	28.9	
Wisconsin.....	1919	79	30	27	2,123	562	1,269	292	26.5	59.8	18.8	3,650,118	963,608	2,102,007	494,503	24.4	60.1	13.5	
	1914	70	40	40	2,265	491	1,359	415	21.7	60.0	18.3	2,358,183	500,866	1,420,055	426,262	21.3	60.6	18.1	
WEST NORTH CENTRAL.....	1919	362	195	166	15,673	4,235	9,113	2,325	27.0	58.1	14.8	\$27,390,421	\$7,233,183	\$15,930,723	\$4,223,615	26.4	58.2	15.4	
	1914	447	187	187	15,630	4,381	8,404	2,755	28.0	54.3	17.6	17,582,716	4,823,987	9,831,431	2,927,297	27.4	55.0	16.6	
Minnesota.....	1919	75	40	41	3,277	617	1,990	661	18.8	61.0	20.2	6,087,088	1,060,477	3,772,432	1,254,179	17.4	62.0	20.6	
	1914	104	39	45	3,494	690	1,720	778	28.3	40.4	22.3	4,100,464	1,142,350	2,105,482	852,632	27.9	51.3	20.8	
Iowa.....	1919	77	25	27	2,074	807	940	327	38.0	45.3	15.8	3,904,658	1,547,213	1,762,312	695,133	39.6	45.1	15.2	
	1914	104	34	38	2,518	798	1,187	533	31.7	47.1	21.2	2,882,005	936,340	1,461,471	484,468	32.5	50.7	16.8	
Missouri.....	1919	53	88	24	5,997	998	4,684	320	16.6	78.1	5.8	9,438,493	1,439,636	7,475,153	523,704	15.3	70.2	5.5	
	1914	66	79	32	5,899	1,056	4,365	478	17.9	74.0	8.1	6,316,206	1,068,270	4,787,218	402,700	16.9	75.8	7.3	
North Dakota.....	1919	14	9	6	426	148	205	73	34.7	48.1	17.1	844,433	275,426	420,754	148,253	32.6	49.8	17.6	
	1914	15	7	8	400	150	152	107	36.7	37.2	26.1	592,843	186,808	229,293	176,742	31.5	38.7	29.8	
South Dakota.....	1919	17	6	6	469	209	169	91	44.6	36.0	19.4	940,170	410,007	330,815	100,857	44.6	35.1	20.3	
	1914	18	3	5	400	181	77	142	45.2	19.3	35.5	477,474	245,105	75,494	156,875	51.3	15.8	32.9	
Nebraska.....	1919	34	17	18	1,471	500	718	253	34.0	48.8	17.2	2,823,234	945,565	1,410,068	467,601	33.5	49.9	16.6	
	1914	35	17	22	1,303	375	672	250	28.8	51.6	19.6	1,517,924	401,200	283,910	283,910	26.4	54.9	18.7	
Kansas.....	1919	92	10	34	1,959	961	308	600	40.1	20.3	30.6	3,858,336	1,545,850	768,089	1,043,788	46.0	22.9	31.1	
	1914	105	8	37	1,607	831	315	461	51.7	19.6	28.7	695,799	845,899	339,939	500,961	49.9	20.0	30.1	
SOUTH ATLANTIC.....	1919	151	132	68	12,080	3,025	1,843	25.0	18.2	53.8	18.2	18,211,883	4,735,179	11,925,073	1,535,038	26.3	55.7	17.2	
	1914	159	124	86	10,102	2,823</td													

## MANUFACTURES.

TABLE 8.—CHARACTER OF OWNERSHIP, BY DIVISIONS AND STATES: 1919 AND 1914—Continued.

DIVISION AND STATE.	Cens- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.						AMOUNT RECEIVED FOR WORK DONE.							
					Total.	In establishments owned by—			Per cent of total.			Total.	In establishments owned by—			Per cent of total.		
		Indi- viduals.	Cor- pora- tions.	All oth- ers.		Indi- viduals.	Cor- pora- tions.	All oth- ers.	Indi- viduals.	Cor- pora- tions.	All oth- ers.		Individ- uals.	Corpora- tions.	All oth- ers.	Indi- viduals.	Cor- pora- tions.	All oth- ers.
SOUTH ATLANTIC—Con.																		
West Virginia.....	1919	10	14	11	920	202	589	129	22.0	64.0	14.0	1,775,349	665,951	907,238	202,160	37.5	51.1	11.4
	1914	16	21	7	827	200	571	50	24.2	69.0	8.8	785,782	169,769	501,343	24,870	21.6	75.3	3.1
North Carolina.....	1919	26	20	10	1,433	466	648	319	32.5	45.2	22.3	2,252,100	879,316	921,032	451,752	39.0	40.9	20.1
	1914	31	16	12	1,165	520	494	181	44.6	39.8	15.6	1,020,358	480,203	439,007	157,088	41.9	42.8	15.3
South Carolina.....	1919	15	7	6	625	266	208	151	42.6	33.3	24.2	833,801	316,541	268,285	248,975	38.0	32.2	29.9
	1914	7	9	7	517	114	237	116	22.1	55.5	22.4	422,212	97,614	229,748	94,850	23.1	54.4	22.5
Georgia.....	1919	21	22	9	2,194	294	1,447	453	13.4	66.0	20.6	3,218,832	422,592	2,328,893	465,847	13.1	72.4	14.5
	1914	17	18	8	1,776	292	1,300	178	16.5	73.5	10.0	1,632,221	258,254	1,227,152	146,815	15.8	75.2	9.0
Florida.....	1910	13	16	6	983	234	670	79	23.8	68.2	8.0	1,480,051	283,912	1,007,077	99,032	19.2	74.1	6.7
	1914	22	15	8	864	239	430	136	38.5	50.8	15.7	946,314	292,608	510,194	143,512	30.9	53.0	15.2
EAST SOUTH CENTRAL.....	1919	78	67	37	7,083	2,470	3,360	1,253	34.0	47.4	17.7	9,687,736	3,239,428	4,731,581	1,716,727	33.4	48.8	17.7
	1914	78	89	43	6,447	1,202	3,991	1,254	18.6	61.9	19.5	5,863,673	1,037,814	3,761,811	1,004,048	17.7	64.2	18.1
Kentucky.....	1919	28	19	16	2,294	1,425	372	407	62.1	10.2	21.7	2,005,346	1,752,021	542,528	610,797	60.3	18.7	21.0
	1914	32	33	10	1,873	429	1,176	208	22.9	62.8	14.3	1,055,979	352,007	1,089,090	215,882	21.1	65.9	13.0
Tennessee.....	1919	24	24	11	2,693	524	1,673	496	19.5	62.1	18.4	3,639,602	688,042	2,190,108	761,452	18.9	60.2	20.9
	1914	17	31	19	2,580	230	1,573	777	8.0	61.0	30.0	2,296,797	201,873	1,406,568	688,350	8.8	61.2	30.0
Alabama.....	1919	13	17	7	1,402	190	1,003	179	13.0	74.8	12.2	2,100,118	253,487	1,701,792	240,839	11.5	77.5	11.0
	1914	15	19	7	1,388	260	1,012	116	18.7	72.9	8.4	1,360,688	222,633	1,055,061	82,944	16.4	77.6	6.1
Mississippi.....	1919	13	7	3	634	331	222	81	52.2	35.0	12.8	946,670	545,878	297,153	103,639	57.7	31.4	10.9
	1914	14	6	7	606	283	230	93	46.7	38.0	15.3	510,209	201,251	202,092	76,866	48.4	37.4	14.2
WEST SOUTH CENTRAL.....	1919	160	96	87	10,004	2,478	5,679	1,847	24.8	50.8	18.5	16,553,772	3,863,827	9,599,532	3,090,413	23.3	58.0	18.7
	1914	162	95	110	8,096	2,300	4,012	1,784	28.4	49.6	22.0	9,218,167	2,450,721	4,977,686	1,789,760	26.6	54.0	19.4
Arkansas.....	1919	30	10	9	937	462	347	138	48.2	37.0	14.7	1,393,024	651,261	507,410	174,353	46.8	40.7	12.5
	1914	23	11	19	832	316	261	255	38.0	31.4	30.6	836,457	305,446	273,434	267,577	36.5	32.7	30.8
Louisiana.....	1919	7	11	6	1,605	362	1,100	143	22.6	68.5	8.9	2,349,774	444,322	1,711,779	193,673	18.9	72.8	8.2
	1914	10	11	7	1,243	331	722	190	26.6	59.1	15.3	1,100,148	302,185	728,302	150,661	25.4	61.2	13.4
Oklahoma.....	1919	50	21	28	1,904	588	860	546	29.5	43.1	27.4	3,561,050	902,787	1,613,466	984,806	27.0	45.3	27.7
	1914	49	25	27	1,416	457	593	366	32.3	41.9	25.8	1,689,721	529,190	767,398	373,133	31.7	46.0	22.3
Texas.....	1919	73	54	44	5,468	1,076	3,372	1,020	19.7	61.7	18.7	9,249,915	1,805,457	5,706,877	1,737,581	19.5	61.7	18.8
	1914	80	48	57	4,605	1,196	2,436	973	20.0	52.9	21.1	5,521,841	1,313,000	3,208,552	999,889	23.8	58.1	18.1
MOUNTAIN.....	1919	130	103	48	6,004	1,286	4,205	513	21.4	70.0	8.5	\$11,330,923	\$2,434,727	\$7,924,321	\$971,875	21.5	69.9	8.6
	1914	125	84	61	4,974	1,104	.....	.....	22.2	.....	.....	6,550,610	1,410,128	.....	.....	21.6	.....	.....
Montana.....	1919	23	22	4	971	155	765	51	16.0	78.8	5.3	1,894,350	203,185	1,504,109	97,062	15.5	70.4	5.1
	1914	17	19	6	810	151	607	61	18.4	74.1	7.5	1,266,552	227,321	948,209	91,022	17.9	74.0	7.2
Idaho.....	1919	23	9	8	571	297	180	94	52.0	31.5	16.5	1,179,846	576,878	403,548	190,420	48.9	34.2	16.9
	1914	22	6	5	442	219	124	69	56.3	28.1	15.6	592,749	303,059	185,412	103,378	51.3	31.3	17.4
Wyoming.....	1919	13	7	3	357	156	158	43	43.7	44.3	12.0	763,953	320,570	375,922	67,461	42.0	49.2	8.8
	1914	11	2	5	135	94	.....	191	50.8	.....	49.2	238,048	128,156	110,892	53.8	.....	46.2	.....
Colorado.....	1919	39	31	22	2,086	350	1,508	228	16.8	72.3	10.9	3,769,849	607,213	2,725,708	426,838	16.1	72.5	11.4
	1914	36	31	27	1,750	258	1,230	262	14.7	70.4	14.9	2,163,263	296,090	1,534,574	332,599	13.7	70.9	15.4
New Mexico.....	1919	10	4	2	202	109	154	29	37.3	52.7	9.9	432,279	176,303	205,711	50,265	40.8	47.6	11.6
	1914	7	5	3	240	66	132	42	27.5	55.0	17.5	280,373	76,824	157,069	46,480	27.4	56.0	16.6
Arizona.....	1919	5	12	4	539	80	413	46	14.8	76.6	8.5	987,438	157,737	740,645	83,056	16.0	75.6	8.4
	1914	7	6	4	335	142	160	34	42.4	47.5	10.1	425,990	191,914	186,671	47,414	45.1	48.8	11.1
Utah.....	1919	9	15	3	1,040	74	951	15	7.1	91.4	1.4	1,973,166	154,225	1,789,384	29,557	7.8	90.7	1.5
	1914	20	12	4	1,070	109	937	24	10.2	87.6	2.2	1,307,433	125,750	1,215,243	26,440	9.2	88.9	1.0
Nevada.....	1919	8	3	2	148	65	76	7	43.9	51.4	4.7	340,036	148,616	173,204	18,216	43.7	50.9	5.4
	1914	5	3	4	124	35	67	22	28.2	54.0	17.8	216,198	66,115	112,157	37,921	30.6	51.0	17.5
PACIFIC.....	1919	353	293	100	10,836	3,377	10,949	2,510	20.1	65.0	14.9	33,879,304	6,782,060	21,058,668	5,138,576	20.0	64.8	15.2
	1914	382	207	213	15,459	2,631	10,516	2,312	17.0	68.0	15.0	20,347,226	3,304,667	13,940,634	3,002,725	16.7	68.6	14.8
Washington.....	1919	90	46	41	3,539	686	2,282	571	19.4	64.5	16.1	7,330,715	1,450,880	4,766,060	1,119,175	19.8	65.0	15.3
	1914	92	52	48	3,298	628	2,251	419	19.0	68.3	12.7	4,251,620	790,288	2,894,255	558,077	18.8	68.1	13.1
Oregon.....	1919	88	28	12	2,033	332	1,503	198	16.3	73.9	9.7	3,620,983	533,155	2,734,786	362,042	14.7	75.3	10.0
	1914	94	27	17	1,745	246	1,305	194	14.1	74.8	11.1	2,146,868	295,837	1,620,579	230,452	13.8	75.5	10.7
California.....	1919	230	219	137	11,264	2,350	7,184	1,741	20.9	63.6	15.5	22,912						

## POWER LAUNDRIES.

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TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.			Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.	
			Total.	Propri- etors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).						
ALABAMA.....	1919	37	1,684	31	101	1,462	\$1,250,596	\$355,277	\$771,293	\$463,521	\$2,106,118	
	1914	41	1,569	31	150	1,388	784,541	147,929	480,569	266,450	1,300,688	1,675 1,362
Birmingham.....	1919	7	873	.....	109	764	674,623	219,184	430,617	228,684	1,228,172	771
	1914	10	781	3	80	698	456,048	86,009	254,513	129,832	755,530	681
Mobile.....	1919	6	224	5	39	180	117,496	53,761	117,471	47,162	287,090	50
	1914	4	228	1	20	207	80,024	20,688	84,141	29,350	197,901	157
Montgomery.....	1919	4	195	6	38	151	127,333	46,392	55,644	60,602	196,351	128
	1914	3	149	4	13	132	81,905	15,231	42,523	27,414	121,328	111
ARIZONA.....	1919	21	508	13	46	539	444,081	72,838	430,005	253,740	987,488	685
	1914	17	379	19	25	385	268,812	30,098	194,078	70,770	425,999	326
Phoenix.....	1919	3	100	.....	18	142	98,807	27,554	131,925	60,470	280,110	37
	1914	3	130	4	9	117	68,000	10,266	67,581	24,019	133,147	80
ARKANSAS.....	1919	49	1,045	46	62	937	690,445	87,446	549,125	380,619	1,393,024	1,058
	1914	53	1,011	76	103	832	577,314	98,628	338,838	147,826	836,457	1,092
Fort Smith.....	1919	3	69	5	3	61	30,312	4,100	45,475	24,955	87,903	40
	1914	4	108	14	10	84	66,020	12,084	35,010	11,598	93,438	88
Hot Springs.....	1919	4	138	2	7	129	125,835	9,500	70,505	40,388	182,069	51
	1914	3	103	4	14	85	100,400	10,549	38,670	27,128	87,280	125
Little Rock.....	1919	11	373	4	32	337	230,412	43,974	214,666	124,928	603,577	199
	1914	6	301	5	30	266	138,540	34,257	118,172	41,015	277,736	187
CALIFORNIA.....	1919	586	13,223	633	1,326	11,204	18,373,479	2,120,534	9,301,912	4,582,096	22,912,606	15,537
	1914	532	12,077	624	1,037	10,416	9,618,271	1,084,550	6,212,085	2,262,195	13,048,738	13,503
Alameda.....	1919	12	107	13	9	85	87,760	11,870	70,896	62,744	204,824	.....
	1914	9	114	18	4	92	79,808	4,420	56,273	23,668	119,157	96
Bakersfield.....	1919	3	208	4	111	93	91,510	5,050	93,500	77,191	191,097	.....
	1914	5	101	5	5	91	118,873	4,788	55,680	28,474	134,605	105
Berkeley.....	1919	13	184	8	8	148	130,725	21,857	126,112	40,919	304,233	.....
	1914	14	187	16	9	142	139,217	10,348	84,817	22,992	181,188	131
Eureka.....	1919	5	80	6	4	70	63,150	2,525	49,317	20,936	96,950	.....
	1914	5	67	9	4	54	90,804	3,764	26,538	10,472	63,446	92
Fresno.....	1919	14	224	17	22	185	270,215	25,939	200,559	117,091	486,686	.....
	1914	8	168	11	9	148	160,970	9,359	99,543	31,433	227,072	207
Long Beach.....	1919	5	220	1	19	200	240,571	20,109	114,315	50,887	302,404	.....
	1914	4	145	4	20	121	151,113	17,770	81,840	33,180	176,290	220
Los Angeles.....	1919	46	3,305	32	515	2,818	4,585,894	755,091	1,088,938	957,249	5,676,164	3,031
	1914	42	3,179	33	394	2,752	2,697,607	316,224	1,501,460	565,107	3,553,871	3,063
Oakland.....	1919	57	2,991	54	119	2,818	1,276,328	181,898	865,042	274,544	2,153,878	.....
	1914	66	1,125	76	98	951	855,138	119,506	590,816	201,020	1,350,680	1,143
Pasadena.....	1919	12	340	18	37	285	524,013	62,451	292,073	107,205	689,201	.....
	1914	7	307	8	28	271	263,918	20,295	169,097	52,603	381,950	203
Sacramento.....	1919	18	465	22	40	403	481,076	61,306	342,686	150,680	785,713	.....
	1914	12	373	15	30	328	337,707	44,354	211,749	77,804	463,322	350
San Bernadino <sup>1</sup> .....	1919	5	88	3	11	74	93,025	6,485	44,851	23,385	95,931	.....
San Diego.....	1919	17	430	13	59	358	493,120	80,675	236,267	123,485	600,398	.....
	1914	13	461	12	27	422	349,708	30,133	221,478	85,459	465,802	442
San Francisco.....	1919	110	2,852	120	224	2,508	2,870,239	381,603	2,405,400	1,024,850	5,341,130	.....
	1914	110	2,799	128	225	2,446	2,192,830	298,438	1,576,651	530,282	3,430,092	3,425
San Jose.....	1919	14	280	20	20	240	251,605	207,030	240,197	96,158	511,784	.....
	1914	16	233	27	17	189	113,283	18,845	117,257	36,065	269,594	306
Santa Ana <sup>1</sup> .....	1919	4	125	1	8	116	132,723	7,430	80,093	50,929	102,733	.....
Santa Barbara.....	1919	6	133	5	13	115	63,223	10,134	100,922	56,366	222,741	.....
	1914	4	79	3	1	75	61,710	1,200	49,763	18,130	94,092	80
Stockton.....	1919	14	252	14	19	219	287,574	19,052	185,707	77,936	440,753	.....
	1914	11	227	13	9	205	104,050	10,018	134,863	34,639	279,814	209
Vallejo.....	1919	3	124	6	8	110	115,425	8,456	107,460	56,591	211,108	.....
	1914	6	84	4	6	74	67,029	10,100	49,125	18,741	98,231	89
COLORADO.....	1919	92	2,470	86	298	2,086	2,255,956	442,133	1,437,628	688,537	3,750,849	2,925
	1914	94	2,070	97	223	1,759	1,440,896	249,777	849,010	364,301	2,163,263	2,723
Boulder City <sup>1</sup> .....	1919	3	50	4	5	41	39,203	5,030	26,202	12,448	59,480	74
Colorado Springs <sup>1</sup> .....	1919	5	196	6	27	103	170,565	29,447	119,077	28,211	282,017	85
Denver.....	1919	38	1,529	22	201	1,308	1,366,340	312,007	917,545	422,919	2,407,244	1,457
	1914	38	1,235	27	149	1,059	369,666	168,268	511,294	200,546	1,298,085	1,383
Greeley <sup>1</sup> .....	1919	3	43	2	5	36	88,104	6,280	24,766	12,522	69,840	40
Fueblo.....	1919	3	172	1	24	147	223,632	34,796	83,091	45,450	256,970	180
	1914	3	139	1	14	124	150,167	19,013	68,726	50,150	158,485	137
CONNECTICUT.....	1919	128	2,334	181	179	2,024	2,421,654	285,874	1,531,432	709,699	3,560,276	3,646
	1914	127	2,184	125	146	1,913	1,454,961	161,660	894,201	408,401	2,108,011	3,178
Bridgeport.....	1919	13	283	15	27	241	810,577	44,803	170,898	36,016	425,784	602
Hartford.....	1919	8	270	9	27	234	196,596	24,792	116,087	48,220	265,474	435
	1914	16	438	18	48	372	532,807	74,143	312,716	198,256	768,865	618
Meriden.....	1919	17	386	19	19	248	277,436	22,514	172,864	86,424	410,678	435
	1914	3	78	2	9	67	43,716	12,031	36,048	10,473	73,786	70
	1914	4	91	4	13	74	65,083	9,352	31,883	8,834	78,893	100

<sup>1</sup> Not reported in 1914.

## MANUFACTURES.

TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse- power.
			Total.	Propri- etors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).						
CONNECTICUT—Continued.												
New Britain.....	1919	4	85	6	5	74	\$113,461	\$12,250	\$94,638	\$22,268	\$177,368	129
	1914	4	77	2	5	70	102,637	10,732	37,646	16,620	96,770	137
New Haven.....	1919	16	520	12	33	475	483,130	56,024	321,361	153,460	718,970	560
	1914	18	430	12	29	389	281,860	35,145	175,356	70,201	395,540	596
New London.....	1919	4	67	3	3	61	55,372	2,370	39,265	18,857	90,497	93
	1914	4	66	3	2	61	54,156	1,650	23,566	7,766	52,851	105
Norwich.....	1919	4	52	0	1	45	78,225	600	43,500	21,066	98,898	95
	1914	3	55	4	3	48	25,215	5,564	18,790	10,293	50,300	65
Stamford.....	1919	3	75	3	8	64	46,068	21,420	37,834	13,786	111,215	50
	1914	3	64	3	4	57	25,021	10,847	25,411	9,003	60,499	80
Waterbury.....	1919	5	116	2	8	108	59,846	8,842	77,036	45,562	187,582	165
	1914	7	127	3	7	117	56,108	9,865	58,831	28,156	120,110	210
DELAWARE.....	1919	6	300	10	6	284	375,386	13,935	220,984	95,822	444,095	334
	1914	12	360	16	27	326	253,264	26,296	92,178	42,524	242,897	335
Wilmington.....	1910	4	281	7	4	270	360,276	213,084	12,635	91,927	425,120	.....
	1914	9	346	11	27	308	236,604	26,298	86,610	39,869	220,332	301
DISTRICT OF COLUMBIA.....	1919	21	1,805	10	140	1,655	1,374,200	314,468	1,049,580	481,036	2,559,210	1,033
	1914	18	1,351	10	124	1,217	971,336	121,408	1,440,990	181,876	1,023,475	1,071
FLORIDA.....	1919	36	1,146	23	140	988	881,099	192,147	488,157	365,461	1,480,051	1,437
	1914	45	991	41	86	804	612,526	91,098	356,124	182,317	946,314	1,120
Jacksonville.....	1919	6	367	5	40	323	250,674	75,037	160,527	95,655	495,315	326
	1914	6	234	2	28	204	139,157	39,000	77,195	39,073	275,155	372
Pensacola.....	1919	3	117	.....	28	89	66,313	28,332	34,879	40,459	133,811	45
	1914	3	97	4	19	77	33,439	18,053	22,186	17,007	70,354	69
Tampa.....	1919	3	178	.....	27	151	147,941	38,482	54,781	56,739	284,286	195
	1914	3	191	4	14	173	110,919	10,114	96,748	51,249	210,557	158
GEORGIA.....	1919	52	2,522	40	288	2,194	1,919,132	426,179	1,205,256	872,895	3,216,832	2,566
	1914	43	2,008	35	197	1,770	1,044,728	207,229	571,737	335,841	1,632,221	1,773
Atlanta.....	1919	12	1,317	5	184	1,128	1,022,240	286,026	879,903	481,579	1,834,362	1,070
	1914	13	1,039	4	119	916	505,786	130,495	308,561	192,234	912,952	901
Augusta.....	1919	3	119	4	8	107	106,833	6,092	55,975	47,101	147,394	95
	1914	3	80	4	9	67	61,173	7,094	22,452	15,248	60,448	105
Macon.....	1919	6	239	1	31	197	105,408	44,458	119,304	60,570	285,771	250
	1914	3	175	.....	17	153	83,725	16,872	49,491	22,948	131,486	84
Savannah.....	1919	5	290	2	28	280	216,095	42,044	162,104	90,080	394,109	.....
	1914	4	300	1	24	275	180,960	24,854	78,257	53,548	222,415	236
Waycross <sup>1</sup> .....	1910	3	23	2	4	17	10,550	3,363	7,915	26,272	14,515	25
IDAHo.....	1919	40	652	38	43	571	877,580	59,420	487,635	322,581	1,179,846	756
	1914	36	510	42	26	442	486,600	28,844	246,094	140,588	592,749	1,033
Bolso.....	1919	3	98	1	7	90	118,859	13,157	76,555	35,447	176,242	142
	1914	3	85	2	7	76	98,952	7,545	55,080	15,987	117,267	70
ILLINOIS.....	1919	470	12,189	405	1,205	10,579	12,627,971	2,087,158	7,895,989	4,942,918	20,606,032	14,833
	1914	461	12,470	437	1,029	11,004	8,401,995	1,150,466	5,474,339	2,038,683	12,846,432	13,472
Alton.....	1919	4	65	3	7	55	98,994	13,554	83,195	21,273	93,375	30
	1914	3	52	2	2	48	44,275	2,300	23,742	13,891	66,408	55
Aurora.....	1919	3	118	3	7	108	78,853	10,889	58,055	51,767	161,979	80
	1914	3	98	2	10	86	38,404	8,272	37,790	16,430	81,541	105
Bloomington.....	1919	3	99	4	8	87	62,122	11,440	64,597	37,325	159,766	50
	1914	4	140	4	14	131	77,144	12,850	61,526	23,306	184,270	136
Centralia <sup>1</sup> .....	1919	3	31	4	2	25	16,184	1,612	12,635	6,948	27,133	40
Champaign.....	1919	5	96	9	4	83	41,441	3,052	59,953	29,965	144,639	42
	1914	3	62	6	14	42	39,325	10,008	16,800	8,201	50,682	37
Chicago.....	1919	250	8,137	171	823	7,143	8,627,851	1,560,989	5,719,287	3,453,587	14,836,208	7,544
	1914	222	8,398	190	807	7,401	5,395,721	847,328	3,918,958	1,863,017	8,949,896	8,010
Danville.....	1919	5	124	6	21	97	162,870	28,761	56,377	36,320	177,140	183
	1914	4	132	4	25	103	118,345	25,629	30,366	21,691	132,614	183
Decatur.....	1919	4	234	1	25	208	156,111	32,240	132,469	42,000	295,040	132
	1914	5	192	6	10	176	115,900	10,780	73,447	35,849	168,794	305
East St. Louis.....	1919	6	134	4	10	111	156,973	36,349	67,791	46,952	203,785	125
	1914	4	110	.....	12	98	142,724	19,002	41,197	34,468	119,435	206
Evanston.....	1919	6	214	5	20	189	213,543	32,868	160,109	93,690	432,226	245
	1914	6	194	4	22	168	135,914	21,522	98,634	29,107	215,005	124
Galesburg.....	1919	4	64	3	6	45	40,269	6,810	27,199	30,366	71,513	81
	1914	5	77	3	11	63	48,699	8,344	28,590	15,544	74,212	86
Granite <sup>1</sup> .....	1919	3	20	4	1	15	26,598	416	9,412	5,823	20,367	.....
Joliet.....	1919	4	108	1	19	88	128,947	25,395	35,370	32,941	126,090	88
	1914	6	115	1	13	101	104,137	17,496	40,501	30,743	123,622	141
La Salle <sup>1</sup> .....	1919	2	58	4	5	50	58,258	4,555	30,812	16,356	85,587	33
Moline.....	1919	6	103	10	5	88	132,379	5,470	64,335	45,208	126,622	.....
	1914	5	89	7	8	74	154,077	5,533	34,427	14,549	84,620	76

<sup>1</sup> Not reported in 1914.

## POWER LAUNDRIES.

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TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).						
ILLINOIS—Continued.												
Peoria.....	1919	8	335	12	47	276	\$442,090	\$55,423	\$166,243	\$147,471	\$504,199	420
	1914	11	335	18	22	295	281,928	14,374	126,857	68,248	316,696	449
Quincy.....	1919	3	100	.....	19	141	160,092	24,778	76,303	88,018	207,905	103
	1914	3	208	.....	19	187	167,362	21,160	66,187	27,067	170,713	157
Rock Island.....	1919	5	77	12	5	60	75,605	7,423	38,692	27,216	102,031	.....
	1914	7	102	8	8	86	87,451	6,456	33,087	16,813	85,394	108
Rockford.....	1919	7	166	4	13	149	86,726	12,245	97,967	43,931	218,442	110
	1914	8	178	9	20	149	62,025	19,124	66,337	26,271	160,418	176
Springfield.....	1919	8	361	8	30	313	344,393	52,687	186,026	115,058	478,529	330
	1914	8	324	6	21	297	161,650	18,912	126,736	57,255	200,274	315
INDIANA.....	1919	158	4,328	153	607	3,598	3,629,011	530,857	2,107,004	1,556,505	5,588,748	5,260
	1914	174	4,307	170	387	3,750	2,295,353	382,896	1,520,680	703,337	3,097,112	4,739
Crawfordsville <sup>1</sup> .....	1910	5	41	6	5	30	30,302	2,300	12,400	10,756	44,706	25
Elkhart.....	1910	3	52	2	7	43	49,054	7,340	19,267	16,003	71,308	65
	1914	3	67	1	12	54	51,000	10,780	22,200	18,085	53,249	48
Evansville.....	1919	8	377	3	31	343	284,233	40,002	154,639	77,597	362,386	342
	1914	6	370	2	31	337	240,983	30,450	109,410	51,741	271,055	285
Fort Wayne.....	1919	7	202	4	16	182	211,441	18,984	124,132	215,893	426,583	9
	1914	3	194	3	18	173	70,987	13,709	65,508	20,171	134,938	205
Gary <sup>1</sup> .....	1919	5	97	3	9	85	80,702	14,220	77,322	41,116	163,511	175
Indianapolis.....	1919	10	1,409	5	206	1,198	1,075,085	284,072	705,702	479,080	1,947,094	970
	1914	26	1,408	12	151	1,243	678,750	171,807	546,013	241,150	1,283,137	1,452
Kokomo.....	1910	3	77	3	1	78	62,195	785	49,370	27,334	113,013	115
	1914	3	62	3	1	58	20,375	390	16,938	6,628	49,500	45
Logansport.....	1910	3	116	4	10	102	91,113	12,033	61,409	47,021	154,120	60
	1914	3	109	4	4	101	60,523	2,704	45,231	14,456	97,420	146
Marion.....	1919	4	95	5	11	79	84,666	12,385	44,233	24,900	120,412	.....
	1914	4	91	5	6	80	62,537	4,210	35,216	11,428	74,204	76
Muncie.....	1919	3	108	2	12	94	82,268	12,428	76,444	38,601	106,851	142
	1914	3	88	2	7	80	55,875	5,740	34,916	9,725	83,655	71
Richmond <sup>1</sup> .....	1919	4	48	3	4	41	21,593	4,160	22,656	25,916	64,321	40
South Bend.....	1919	4	146	1	8	137	159,829	14,231	88,477	53,262	224,814	100
	1914	8	139	4	20	115	101,517	16,781	67,405	43,777	165,118	351
Terre Haute.....	1919	5	140	3	23	114	240,766	30,393	82,018	66,363	196,625	394
	1914	4	253	1	41	211	165,521	45,924	72,690	48,207	257,982	248
Vincennes.....	1919	3	79	4	3	72	74,500	2,073	29,088	14,485	75,200	170
	1914	3	74	4	2	68	39,334	930	22,787	8,801	65,003	57
IOWA.....	1919	129	2,466	137	255	2,074	2,509,074	357,051	1,372,508	901,410	3,004,658	3,168
	1914	176	2,883	186	179	2,518	1,784,871	180,034	1,150,519	687,027	2,882,005	3,873
Burlington.....	1919	3	64	6	6	52	57,453	7,006	31,347	23,674	88,435	97
	1914	4	60	7	7	76	20,549	7,000	32,403	11,006	74,407	76
Cedar Rapids.....	1919	5	171	2	19	150	143,802	25,601	108,671	54,732	308,510	165
	1914	7	210	7	18	185	123,062	17,616	94,568	45,482	237,771	292
Davenport.....	1919	6	175	6	15	154	100,386	24,294	105,491	74,875	291,038	105
	1914	7	171	3	13	155	55,080	17,768	62,343	18,849	162,384	160
Des Moines.....	1919	11	418	11	49	353	407,134	70,120	236,846	152,720	602,039	380
	1914	12	392	10	19	363	191,700	24,436	197,049	86,187	433,783	486
Dubuque.....	1919	3	73	5	10	58	102,530	16,020	32,397	35,448	104,171	68
	1914	6	79	5	4	70	63,478	2,756	33,319	20,599	70,378	110
Sioux City.....	1919	6	284	2	52	230	361,888	89,093	192,189	86,810	573,694	295
	1914	8	276	6	24	246	197,050	27,633	124,289	43,932	293,630	318
KANSAS.....	1919	186	2,270	165	146	1,959	1,082,927	191,778	1,280,845	912,050	3,358,336	2,785
	1914	180	1,853	180	66	1,807	1,181,164	65,707	635,076	1,692,799	1,692,799	2,664
Fort Scott <sup>1</sup> .....	1919	3	25	2	.....	23	32,417	20,107	8,545	50,813	24	
Hutchinson.....	1919	6	139	9	9	121	145,507	10,480	77,590	38,436	203,106	40
	1914	5	123	7	4	112	98,985	3,760	40,939	19,771	110,262	206
Kansas City.....	1919	6	146	11	14	121	184,139	18,122	56,416	92,212	238,404	60
	1914	7	97	8	2	87	47,400	896	42,331	18,376	87,337	151
Leavenworth <sup>1</sup> .....	1919	3	107	5	6	96	101,450	5,920	60,380	36,221	129,000	105
Parsons.....	1919	4	57	5	2	50	54,800	1,500	38,351	13,283	73,833	182
	1914	3	49	4	4	38	40,567	2,080	13,106	6,744	37,993	48
Pittsburg.....	1919	4	36	6	.....	30	10,351	20,620	11,257	45,382	10	.....
	1914	3	35	5	.....	30	15,400	14,100	4,877	37,500	66	.....
Salina.....	1919	4	63	6	.....	57	77,413	416	39,193	37,470	105,286	22
	1914	3	46	4	1	41	22,780	20,221	15,442	51,100	54	.....
Topeka.....	1919	6	232	4	34	194	136,732	43,798	109,440	68,403	316,790	175
	1914	10	206	10	11	185	96,260	9,988	78,049	39,629	184,517	228
Wichita.....	1919	7	409	9	33	367	293,089	63,520	287,426	149,293	692,973	180
	1914	8	295	9	21	265	211,465	22,879	132,420	52,080	815,498	201
KENTUCKY.....	1919	63	2,591	53	244	2,294	1,688,280	236,126	1,183,377	789,000	2,905,346	6,702
	1914	75	2,086	54	159	1,873	1,116,867	145,637	698,533	800,632	1,665,979	2,665
Lexington.....	1919	3	288	.....	37	251	277,181	40,123	156,426	90,139	347,011	313
	1914	6	277	6	19	252	125,282	16,150	97,593	44,793	199,672	376
Louisville.....	1919	20	1,245	13	107	1,125	734,733	152,075	580,210	380,590	1,353,369	1,224
Owensboro.....	1919	3	61	.....	83	808	469,915	83,187	325,388	138,767	775,985	987
	1914	3	58	1	3	52	59,889	2,800	18,685	6,937	38,857	108

<sup>1</sup> Not reported in 1914.

## MANUFACTURES.

TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.			Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse- power.	
			Total.	Propri- etors and firm mem- bers.	Salaried em- ployees.							
LOUISIANA.....	1919	24	1,837	17	215	1,605	\$1,449,125	\$329,497	\$788,575	\$485,213	\$2,349,774	
	1914	28	1,369	24	102	1,243	1,102,216	114,323	437,252	231,637	1,160,148	1,778 1,497
New Orleans.....	1919	9	1,248	1	149	1,096	800,365	216,771	506,240	309,238	1,441,427	1,125 721
	1914	9	849	8	42	799	582,875	53,438	265,838	136,085	689,747	
MAINE.....	1919	81	1,144	81	70	993	1,121,566	80,482	607,083	412,828	1,514,854	1,577
	1914	92	1,097	101	66	930	685,304	53,956	380,663	182,477	939,021	1,741
Auburn.....	1919	4	31	3	3	25	36,004	2,100	17,511	9,241	35,178	50
	1911	6	68	10	4	54	36,053	2,012	23,884	11,433	59,044	89
Augusta.....	1919	4	29	6	1	22	16,767	1,560	15,647	12,917	45,725	15
	1914	3	36	3	1	32	20,483	1,590	15,872	9,630	36,028	53
Bangor.....	1919	4	133	2	10	115	93,164	16,824	62,410	76,982	177,057	73
	1914	5	102	2	16	84	64,885	13,827	28,585	32,670	86,172	166
Lewiston.....	1919	4	39	4	.....	35	49,930	.....	30,476	26,598	80,116	105
	1914	4	41	5	.....	36	13,600	.....	18,667	6,565	33,611	98
Portland.....	1919	10	413	10	34	369	455,418	42,152	199,491	101,869	523,398	219
	1914	11	335	11	17	307	240,084	14,527	131,388	38,773	323,550	436
MARYLAND.....	1919	46	1,888	39	230	1,610	1,519,051	286,507	908,450	690,733	2,640,686	2,341
	1914	54	1,921	62	144	1,715	1,184,871	104,175	593,792	259,456	1,391,902	2,211
Baltimore.....	1919	30	1,540	22	204	1,314	1,158,852	258,309	806,581	565,363	2,220,206	1,751
	1914	25	1,420	25	120	1,275	827,250	84,023	437,699	176,179	1,019,230	1,551
Cumberland.....	1919	4	162	2	18	137	200,093	16,406	87,381	56,789	208,220	130
	1914	4	148	2	8	135	157,674	7,862	46,81	21,194	117,331	121
MASSACHUSETTS.....	1919	340	7,900	330	809	6,821	7,260,310	1,166,026	5,285,153	2,484,350	12,864,279	11,502
	1914	391	8,861	404	836	7,771	4,695,798	713,460	3,721,409	1,391,900	8,661,830	11,382
Arlington <sup>1</sup> .....	1919	3	42	2	3	37	35,166	2,584	24,850	13,239	71,464	50
	1919	3	17	3	1	13	15,885	660	11,114	4,561	27,911	.....
Attleboro.....	1914	4	48	5	3	40	28,361	1,544	18,904	5,041	36,904	93
	1919	3	59	1	14	44	50,888	19,482	30,563	8,059	95,304	.....
Beverly.....	1919	4	80	3	11	66	27,943	10,660	30,176	10,033	10,840	60
	1914	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boston.....	1910	59	1,929	51	230	1,698	1,847,187	397,961	1,309,385	651,707	3,495,010	2,454
	1914	55	2,353	42	199	2,127	1,108,103	243,501	941,278	363,223	2,297,360	2,709
Brockton.....	1919	3	160	3	25	132	125,884	30,827	87,600	37,513	225,811	125
	1914	6	165	10	15	140	120,099	14,208	81,475	18,825	160,609	135
Brookline <sup>1</sup> .....	1919	4	137	5	14	118	168,304	18,868	84,224	25,943	210,714	65
	1919	8	483	5	74	404	530,500	105,774	310,274	129,248	772,688	617
Cambridge.....	1914	9	542	8	88	448	36,717	90,811	224,900	66,962	563,183	585
	1919	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Chicopee.....	1919	4	28	5	.....	23	25,850	.....	25,080	11,566	49,057	60
	1914	3	30	4	.....	20	16,918	.....	10,745	5,843	28,175	65
Clinton.....	1919	3	11	3	.....	8	9,980	.....	5,956	5,400	20,897	28
	1919	3	73	1	7	65	36,512	17,917	40,840	22,235	123,313	95
Everett.....	1919	3	87	2	9	76	31,752	12,122	27,603	15,009	82,352	72
	1914	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fall River.....	1919	13	271	15	16	240	353,018	18,144	207,867	120,446	492,060	561
	1914	13	273	18	12	250	263,308	10,251	137,099	63,111	302,077	531
Fitchburg.....	1919	4	79	7	4	68	51,500	2,730	51,404	27,734	108,225	85
	1914	5	93	7	3	83	37,198	1,024	36,529	12,861	68,252	111
Haverhill.....	1919	16	183	23	2	158	113,387	635	117,464	45,312	248,285	216
	1914	16	205	25	9	171	65,050	7,155	82,007	32,102	180,000	316
Lawrence.....	1919	9	135	11	3	121	104,402	3,520	105,914	49,342	208,598	97
	1914	11	144	13	8	123	64,900	6,620	58,504	23,535	132,377	203
Lowell.....	1919	9	208	13	5	190	263,089	5,452	149,300	75,142	314,322	140
	1914	9	233	10	6	217	66,955	4,768	94,742	33,810	199,347	328
Lynn.....	1919	13	375	13	42	320	320,281	31,222	228,080	108,039	531,101	321
	1914	16	399	16	35	348	267,228	26,782	151,526	44,967	353,038	443
Malden.....	1918	3	136	1	14	121	147,027	16,957	101,575	30,854	218,977	105
	1914	4	139	3	14	122	42,549	13,174	54,600	26,299	119,937	170
Methuen.....	1919	3	48	1	3	44	41,550	4,896	34,941	14,457	69,910	55
	1914	3	56	1	4	51	14,043	2,832	22,834	4,187	36,651	56
New Bedford.....	1919	14	310	14	20	276	314,053	50,814	229,030	114,629	542,888	378
	1914	13	257	14	14	229	142,976	11,819	126,809	47,840	294,490	569
Newburyport.....	1919	3	58	1	0	51	88,814	4,337	40,397	14,616	79,469	5
	1914	5	47	5	4	38	17,310	2,682	17,390	8,285	41,980	91
North Adams.....	1919	3	68	3	2	63	47,372	1,031	41,325	20,666	91,949	51
	1914	4	75	5	5	65	41,103	4,836	29,340	11,240	62,368	105
Northampton.....	1919	3	60	1	9	50	34,158	11,003	35,307	15,931	72,940	.....
	1914	4	57	4	.....	53	16,018	.....	23,300	7,320	50,734	172
Salem.....	1910	4	155	4	26	125	178,830	40,044	98,228	35,428	262,305	125
	1914	5	166	4	10	152	62,298	18,345	82,714	22,535	178,825	143
Somerville.....	1919	8	184	6	22	156	114,972	25,453	145,804	53,733	301,745	185
	1914	5	75	5	4	66	19,916	7,262	40,894	19,908	96,781	122
Southbridge <sup>1</sup> .....	1919	3	28	3	.....	25	32,500	.....	19,944	10,485	43,318	15
	1914	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield.....	1910	12	354	7	46	301	344,855	75,911	236,241	99,305	575,754	360
	1914	13	414	9	47	368	278,385	48,043	182,159	57,299	421,202	313
Taunton.....	1919	3	81	2	6	53	77,267	7,588	46,481	23,491	99,840	90
	1914	5	108	8	5	95	59,325	3,701	47,310	27,682	103,068	169
Watertown.....	1910	3	190	2	9	179	117,756	13,704	142,244	58,459	295,753	216
	1914	4	233	2	9	272	87,691	7,890	147,205	44,829	270,688	127
Worcester.....	1910	11	401	8	58	337	441,813	72,091	242,279	120,894	620,680	428
	1914	13	387	10	20	357	174,255	21,478	144,116	59,656	316,215	378

<sup>1</sup> Not reported in 1914.

## POWER LAUNDRIES.

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TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.
			Total.	Pri- ori-tors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).						
MICHIGAN.....	1919	197	5,746	218	615	4,913	\$5,421,984	\$935,955	\$3,789,179	\$2,192,476	\$9,410,373	7,150
	1914	234	5,637	270	465	4,902	3,172,343	458,146	2,101,118	928,502	5,115,280	6,457
Ann Arbor.....	1919	3	91	7	.....	84	109,926	.....	46,508	40,239	127,780	75
	1914	5	84	9	5	70	65,278	2,056	26,651	23,022	70,380	137
Battle Creek.....	1919	4	113	4	11	98	117,504	11,813	62,177	47,634	130,463	47
	1914	4	137	5	5	127	69,637	7,020	49,337	21,477	101,049	73
Benton Harbor <sup>1</sup> .....	1919	3	62	7	.....	55	38,600	.....	38,604	28,835	97,073	33
Detroit.....	1919	56	2,924	54	404	2,466	2,861,724	665,476	2,207,595	1,206,390	5,583,911	2,432
	1914	46	2,662	43	265	2,354	1,436,227	286,126	1,153,957	432,554	2,023,290	2,782
Flint <sup>1</sup> .....	1919	5	220	5	30	185	103,435	40,255	163,383	85,737	322,905	100
Grand Rapids.....	1919	7	437	6	44	387	359,528	83,835	225,229	123,459	637,625	477
	1914	7	549	3	89	457	355,185	81,052	196,663	68,322	529,558	933
Jackson.....	1919	4	78	4	7	67	49,472	9,788	61,125	39,438	150,976	70
	1914	4	92	3	7	82	44,347	5,855	37,210	14,663	75,510	183
Kalamazoo.....	1919	3	103	2	17	174	277,098	18,269	114,218	64,410	272,287	135
	1914	4	203	7	3	193	183,904	4,180	86,410	55,553	175,355	178
Lausius.....	1919	4	147	5	9	133	144,869	16,970	104,937	45,748	237,509	25
	1914	11	141	14	7	120	57,077	4,274	53,459	28,417	119,244	180
Muskegon.....	1919	4	91	3	8	80	89,125	9,748	51,684	35,450	121,185	26
	1914	3	69	2	9	58	20,931	7,816	17,623	15,690	46,019	65
Port Huron.....	1919	3	134	2	9	128	120,575	13,128	62,544	43,084	158,261	115
	1914	3	112	2	8	102	73,109	4,280	36,398	17,934	87,232	120
Saginaw.....	1919	3	166	3	19	144	102,078	21,103	98,024	49,932	215,033	227
	1914	5	164	7	14	143	100,008	10,028	52,650	26,523	135,695	156
Sault Ste. Marie.....	1919	3	88	1	20	67	125,349	21,708	26,495	24,384	93,953	65
MINNESOTA.....	1919	156	3,818	156	385	3,277	3,967,932	534,725	2,915,506	1,437,708	6,087,088	4,766
	1914	188	4,024	203	327	3,494	2,708,038	332,555	1,640,388	855,443	4,100,464	4,284
Duluth.....	1919	8	326	5	65	250	368,126	93,057	158,946	106,029	600,059	.....
	1914	15	423	12	57	354	423,348	57,894	173,209	110,818	480,882	371
Minneapolis.....	1919	50	1,688	50	184	1,474	1,828,639	208,071	1,205,065	652,771	2,858,009	1,697
	1914	50	1,614	54	129	1,431	968,386	142,883	727,840	347,243	1,743,943	1,667
St. Paul.....	1919	27	972	24	105	843	879,758	143,250	585,586	314,079	1,414,765	1,089
	1914	23	1,079	19	96	964	877,218	90,516	437,282	236,119	1,036,597	927
MISSISSIPPI.....	1919	23	712	20	58	634	527,254	77,848	310,905	286,102	946,670	1,916
	1914	27	688	32	49	607	347,009	53,270	214,578	122,244	540,209	680
Jackson.....	1919	3	119	1	17	101	89,101	24,195	41,952	33,323	106,264	100
	1914	3	84	4	8	72	41,600	13,166	27,765	7,985	69,957	85
MISSOURI.....	1919	165	6,839	112	730	5,997	7,321,472	934,688	3,909,453	2,544,213	9,438,493	3,243
	1914	177	6,757	144	714	5,890	4,332,735	725,766	2,609,155	1,348,790	6,316,206	7,941
Hannibal <sup>1</sup> .....	1919	3	68	3	12	53	73,612	12,688	23,917	41,940	85,910	40
Joplin.....	1919	5	158	8	13	137	128,566	14,956	69,621	38,426	100,186	95
	1914	6	140	3	16	121	106,185	18,213	45,893	19,449	111,355	178
Kansas City.....	1919	32	2,347	15	256	2,076	2,816,305	269,112	1,409,853	816,704	3,554,116	2,715
	1914	35	2,160	19	352	1,378,004	361,210	856,026	476,574	2,217,291	2,856	
St. Joseph.....	1919	5	286	2	37	247	257,584	69,019	161,165	113,924	442,547	235
	1914	6	324	4	38	282	157,185	31,902	109,067	20,802	281,854	286
St. Louis.....	1919	51	2,799	20	322	2,457	2,882,764	431,167	1,597,258	1,095,458	3,701,306	3,214
	1914	42	2,800	19	210	2,571	1,755,148	205,207	1,192,880	608,706	2,659,167	2,784
Springfield.....	1919	3	187	.....	19	188	189,950	31,111	75,261	42,699	190,230	177
	1914	5	210	4	17	189	137,345	18,370	64,901	30,724	175,499	118
MONTANA.....	1919	49	1,092	34	87	971	1,373,349	163,801	839,771	473,189	1,884,356	1,463
	1914	42	920	37	64	819	954,412	88,745	599,480	220,350	1,266,552	999
Butte.....	1919	4	240	.....	25	215	408,934	49,498	208,521	78,190	441,756	422
	1914	4	242	.....	16	226	365,518	25,805	172,079	53,206	327,148	271
Great Falls.....	1919	3	180	3	13	164	181,870	27,382	131,847	81,454	297,305	138
	1914	3	127	2	10	115	64,766	13,660	88,494	36,725	195,617	89
NEBRASKA.....	1919	69	1,710	73	166	1,471	1,908,483	324,634	979,217	646,759	2,823,234	1,942
	1914	74	1,490	85	102	1,303	995,413	153,644	613,189	372,039	1,517,924	1,779
Hastings <sup>1</sup> .....	1919	3	45	3	3	39	30,554	10,858	24,013	23,184	74,028	55
Lincoln.....	1919	6	304	6	41	257	223,672	82,980	117,950	105,754	488,997	262
	1914	6	239	5	20	214	122,880	26,978	100,242	67,452	253,071	167
Omaha.....	1919	20	790	15	75	700	1,029,032	172,917	533,890	293,571	1,421,239	1,030
	1914	19	670	15	52	603	436,995	77,445	310,015	178,668	725,221	804
NEVADA.....	1919	13	169	12	9	148	218,366	15,880	142,286	85,588	340,036	223
	1914	12	150	13	13	124	191,392	17,410	88,054	40,374	216,193	247
Reno <sup>1</sup> .....	1919	4	79	4	5	70	130,547	9,436	66,495	37,348	180,005	99

<sup>1</sup> Not reported in 1914.

## MANUFACTURES.

TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.
			Total.	Pri- prietors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).						
NEW HAMPSHIRE.....	1919	61	708	71	21	616	\$380,224	\$21,703	\$486,877	\$254,386	\$908,856	1,302
	1914	74	864	86	18	760	440,499	13,291	324,754	132,476	728,733	1,209
Concord.....	1919	3	101	3	6	92	18,700	9,000	52,183	28,926	115,420	110
	1914	5	118	6	4	108	44,410	4,986	43,800	12,859	100,987	135
Dover.....	1919	3	33	5	.....	28	7,125	.....	16,408	7,751	36,122	98
	1914	4	30	6	.....	24	11,905	.....	8,218	4,568	18,292	46
Koene.....	1919	3	42	4	2	36	20,904	845	24,214	14,263	54,971	57
	1914	3	54	4	2	48	18,087	915	18,547	4,035	35,414	55
Manchester.....	1919	9	130	8	5	117	86,121	8,892	109,584	48,501	222,681	217
	1914	13	176	13	4	159	83,287	2,748	83,820	31,206	170,053	251
Nashua.....	1919	6	70	8	.....	62	40,050	.....	48,190	23,314	104,747	158
	1914	9	88	15	2	69	27,185	1,024	29,295	16,326	77,178	161
Portsmouth.....	1919	6	76	8	2	66	37,555	1,176	43,815	23,442	102,734	162
	1914	5	58	6	.....	52	29,700	.....	19,739	7,705	44,123	82
NEW JERSEY.....	1919	131	4,061	110	370	3,581	4,632,446	669,273	2,863,482	1,392,522	7,091,621	6,257
	1914	142	4,024	124	253	3,642	2,876,920	289,618	1,048,758	655,556	3,590,739	5,103
Asbury Park.....	1910	5	84	5	2	77	113,452	2,836	46,794	20,190	125,047	122
	1914	3	47	5	.....	42	16,575	.....	15,041	4,475	28,202	59
Atlantic City.....	1919	5	111	3	3	105	111,190	2,000	81,251	45,992	198,688	73
	1914	5	83	3	10	70	82,803	7,022	27,832	8,535	68,708	154
Camden.....	1919	6	101	5	4	92	106,561	8,122	73,473	27,040	167,923	139
	1914	6	132	4	11	117	73,135	11,412	45,515	17,803	114,923	150
Hoboken.....	1919	5	82	4	13	65	85,876	20,287	57,842	43,012	193,983	131
	1914	3	122	1	7	114	106,288	10,191	60,589	33,235	151,834	185
Jersey City.....	1919	15	936	8	89	839	1,200,143	204,420	701,875	382,849	1,338,979	2,020
	1914	16	804	15	47	742	700,580	88,821	347,612	142,607	788,328	1,188
Newark.....	1910	16	677	9	100	668	765,054	130,949	398,514	152,083	1,013,920	962
	1914	18	646	10	48	588	406,705	49,631	277,612	107,069	632,286	815
Orange.....	1919	3	108	1	8	99	104,042	16,278	84,154	37,518	231,273	176
	1914	3	126	1	8	117	54,490	5,048	64,093	19,113	110,265	122
Passaic.....	1919	6	154	7	12	135	132,106	20,406	113,510	40,088	236,751	191
	1914	4	227	4	8	215	115,510	5,795	83,773	15,016	117,638	102
Paterson.....	1910	6	221	2	24	195	327,552	61,240	172,781	69,900	421,289	322
	1914	12	228	7	21	200	133,593	24,010	92,079	58,813	210,279	400
Plainfield.....	1910	4	54	2	3	49	117,277	3,844	42,343	14,156	75,040	114
	1914	3	66	2	6	58	41,610	4,102	23,920	8,800	44,810	95
Trenton.....	1919	4	215	5	18	192	259,838	21,907	129,450	70,512	303,032	190
	1914	5	232	4	19	209	210,249	21,169	81,436	42,469	185,169	242
NEW MEXICO.....	1919	16	326	15	19	292	332,123	26,110	171,506	105,609	432,270	345
	1914	15	274	14	20	240	205,065	29,444	104,732	49,719	280,373	396
Albuquerque <sup>1</sup> .....	1919	3	129	1	12	116	162,571	18,049	64,727	32,385	169,866	142
NEW YORK.....	1919	535	13,757	495	1,204	21,112	15,758,753	2,271,163	9,600,451	5,622,388	24,627,441	11,998
	1914	614	15,489	638	1,100	13,751	10,354,297	1,135,867	6,062,092	2,821,811	14,304,964	19,288
Albany.....	1919	9	279	3	41	235	386,206	51,574	143,177	100,003	425,850	357
	1914	15	353	9	36	308	269,005	45,201	136,387	61,950	354,047	428
Amsterdam.....	1919	5	58	12	.....	48	64,975	.....	31,281	33,426	94,064	77
	1914	6	60	9	1	50	34,508	260	25,615	8,533	70,640	139
Auburn.....	1910	7	100	11	.....	89	60,953	.....	55,290	42,045	137,827	13
	1914	8	118	12	3	103	62,450	2,040	36,767	22,080	98,243	161
Binghamton.....	1919	4	155	5	7	143	79,220	81,242	83,927	45,546	187,830	101
	1914	7	181	8	8	145	96,095	10,178	60,027	18,780	129,911	125
Buffalo.....	1919	26	1,399	18	191	1,190	1,684,748	222,701	808,410	392,995	1,993,161	1,874
	1914	29	1,605	25	167	1,413	1,202,704	170,529	660,994	265,314	1,532,612	1,080
Elmira.....	1919	4	156	3	18	135	142,988	20,978	71,441	44,381	166,282	99
	1914	4	137	6	7	124	115,117	4,425	45,009	26,802	105,001	108
Gloversville.....	1919	4	888	6	1	81	51,081	624	65,381	26,942	135,384	130
	1914	8	74	10	1	63	33,479	408	33,039	18,394	72,350	247
Hudson <sup>1</sup> .....	1919	3	31	4	.....	27	22,250	.....	10,246	14,934	47,402	33
	1919	4	122	3	1	118	111,145	3,009	77,276	29,980	143,204	72
Ithaca.....	1914	5	131	4	4	123	103,940	2,998	50,999	16,281	110,092	95
Jamestown.....	1919	4	87	6	5	76	142,600	5,634	48,485	24,495	723,880	114
	1914	7	112	13	7	92	88,646	8,433	46,212	13,347	104,783	156
Johnstown.....	1919	3	14	4	.....	10	5,776	.....	9,562	6,610	22,882	32
	1914	4	20	7	.....	13	12,169	5,657	5,389	21,327	75	
Kingston.....	1919	3	35	3	8	24	18,150	6,782	17,848	6,275	31,704	41
	1914	5	43	5	2	36	33,735	720	14,262	5,557	29,660	119
Little Falls.....	1919	3	26	4	.....	22	44,139	.....	19,128	12,517	45,092	24
	1914	3	23	5	.....	18	20,550	.....	9,300	4,190	26,261	5
Lockport.....	1919	3	51	2	8	41	69,759	7,567	25,878	13,895	60,685	74
	1914	8	41	2	5	34	44,065	4,040	11,180	4,953	30,275	69
Middletown.....	1919	4	41	4	4	33	18,690	3,912	18,880	18,459	54,389	83
	1914	5	39	5	3	31	28,262	1,424	18,353	9,157	35,264	93
Newburgh <sup>1</sup> .....	1919	6	61	10	1	50	45,647	750	43,910	29,261	90,229	60

<sup>1</sup> Not reported in 1914.

POWER LAUNDRIES.

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TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).						
NEW YORK—Continued.												
New York.....	1919	170	7,016	108	675	6,233	\$7,330,082	\$1,462,608	\$5,832,782	\$3,410,473	\$14,610,971	11,336
	1914	149	7,180	118	503	6,559	4,354,648	597,732	2,936,220	1,427,651	6,597,649	8,730
Manhattan borough.....	1919	80	4,101	43	317	3,741	4,655,878	840,855	3,551,888	1,928,934	8,922,700	6,182
	1914	68	4,305	48	330	4,019	2,454,496	378,938	1,766,770	877,735	4,324,720	5,381
Bronx borough.....	1919	16	427	9	49	360	422,846	82,519	308,258	195,841	909,828	902
	1914	12	207	10	16	181	160,550	12,628	100,173	35,205	255,119	318
Brooklyn borough.....	1919	63	2,230	48	279	1,903	2,033,199	487,685	1,716,085	1,154,116	4,380,774	3,865
	1914	62	2,376	58	147	2,171	1,651,551	181,803	995,050	476,468	2,128,635	2,746
Queens borough.....	1919	11	258	8	30	220	198,109	51,447	168,451	140,582	438,570	297
	1914	7	202	4	10	188	88,051	24,363	74,227	38,253	180,176	285
Niagara Falls <sup>1</sup> .....	1919	3	.....	.....	32	.....	192,910	48,821	81,720	34,627	218,110	130
Olean.....	1919	3	50	4	6	46	66,530	5,516	31,528	14,583	71,368	50
	1914	3	51	6	9	36	44,676	7,666	18,788	8,885	42,972	43
Oswego.....	1919	4	47	6	2	39	40,766	767	23,643	15,927	75,702	40
	1914	6	49	7	1	41	28,147	1,560	17,160	6,457	48,032	47
Plattsburgh <sup>1</sup> .....	1919	3	36	3	2	31	28,641	2,912	16,935	11,507	52,263	50
Poughkeepsie.....	1919	5	64	5	4	55	49,555	4,192	41,736	31,858	103,656	135
	1914	10	140	11	4	125	64,862	3,432	71,972	18,987	142,463	105
Rensselaer.....	1919	3	22	3	1	18	32,215	1,000	11,362	6,905	30,130	55
	1914	4	26	4	.....	22	24,005	.....	9,320	5,370	27,485	00
Rochester.....	1919	15	758	8	102	648	1,107,290	141,505	411,207	257,492	1,111,070	1,020
	1914	18	1,460	9	120	1,331	841,957	101,157	587,716	304,054	1,310,458	1,565
Rome.....	1919	3	43	6	1	36	81,893	2,080	25,271	18,134	54,498	52
	1914	6	48	8	2	38	33,937	2,080	14,254	7,624	39,805	76
Schenectady.....	1919	8	107	9	5	93	133,602	1,502	55,872	44,694	132,040	249
	1914	7	95	7	.....	88	175,229	.....	41,593	21,571	83,154	226
Syracuse.....	1919	21	503	22	475	66	856,720	42,038	205,403	147,628	705,745	1,111
	1914	27	544	29	40	475	480,467	29,658	217,778	93,404	477,429	639
Troy.....	1919	8	254	10	16	228	128,650	27,191	163,762	90,387	348,126	300
	1914	16	322	19	20	283	178,296	14,548	125,367	53,602	277,527	453
Utica.....	1919	17	222	19	39	164	782,418	20,500	114,802	60,401	288,998	892
	1914	15	217	20	16	181	173,518	11,873	84,790	20,948	216,517	253
Yonkers <sup>1</sup> .....	1919	3	93	2	11	80	67,398	20,840	68,003	42,344	185,765	145
NORTH CAROLINA.....	1919	56	1,631	53	145	1,433	1,161,269	206,632	755,186	462,040	2,252,100	1,354
	1914	59	1,335	56	114	1,165	798,050	100,692	361,497	240,947	1,026,358	1,359
Asheville.....	1919	3	222	7	25	190	170,931	39,129	74,351	35,459	266,721	105
	1914	4	186	4	10	172	93,800	10,360	57,702	27,462	136,810	90
Charlotte.....	1919	3	4	271	34	239	304,186	54,485	112,064	108,397	827,276	222
	1914	6	226	5	40	181	211,203	34,780	55,684	77,051	219,555	259
Greensboro <sup>1</sup> .....	1919	3	146	2	25	119	73,193	28,732	49,045	198,703	155	155
New Bern <sup>1</sup> .....	1919	5	44	6	5	33	24,050	7,200	21,590	6,020	118,635	27
Raleigh.....	1919	3	132	3	11	118	51,277	12,609	55,677	37,612	168,206	77
	1914	3	115	9	106	106	45,716	9,470	39,944	22,987	94,497	77
Rocky Mount <sup>1</sup> .....	1919	3	70	3	2	65	40,979	5,880	42,020	19,465	98,641	20
NORTH DAKOTA.....	1919	29	488	27	35	426	615,070	57,592	277,297	255,235	844,433	506
	1914	30	478	31	33	409	552,458	34,852	207,953	142,804	592,843	725
Fargo.....	1919	4	112	1	13	98	154,943	20,270	69,556	51,043	223,707	113
	1914	5	122	2	16	104	162,983	15,512	54,036	43,638	153,102	166
Grand Forks.....	1919	4	115	4	12	99	153,923	16,156	64,557	55,169	182,988	94
	1914	3	126	3	10	113	119,482	8,880	46,530	26,288	120,155	83
OHIO.....	1919	277	8,316	273	1,003	7,040	8,209,509	1,418,357	4,703,668	2,874,537	12,528,344	12,107
	1914	296	8,434	309	880	7,265	5,066,162	3,839,455	3,157,194	1,361,646	7,822,491	10,909
Akron.....	1919	17	382	24	47	311	641,675	52,868	264,733	176,587	764,744	509
	1914	10	232	12	15	205	168,433	12,818	97,280	41,777	224,072	264
Alliance <sup>1</sup> .....	1919	3	46	2	5	39	60,580	7,260	26,761	14,575	63,800	55
	1914	3	54	2	3	49	59,943	5,200	34,518	20,111	82,821	52
Ashland.....	1919	3	57	1	3	53	67,959	2,739	22,912	13,317	43,936	92
Canton.....	1919	5	317	4	30	283	212,608	42,681	118,270	75,604	377,212	364
	1914	5	183	7	29	147	155,728	24,873	63,593	22,718	194,878	206
Cincinnati.....	1919	17	1,320	11	202	1,107	1,363,095	271,644	621,588	310,833	1,790,873	2,054
	1914	25	1,712	19	190	1,494	794,293	194,568	630,738	261,111	1,553,889	2,011
Cleveland.....	1919	43	1,887	36	293	1,559	1,024,832	453,820	1,215,918	918,918	3,386,129	2,284
	1914	27	1,818	15	275	1,528	948,720	292,041	703,067	866,600	1,810,406	1,962
Columbus.....	1919	13	637	12	69	550	698,791	84,057	347,675	200,502	807,770	804
	1914	17	695	15	67	613	465,396	63,076	256,748	81,441	631,896	948
Dayton.....	1919	10	613	8	79	520	583,581	109,579	369,555	161,183	895,277	828
	1914	7	482	4	47	431	435,723	49,685	181,613	54,651	430,663	694
East Liverpool.....	1919	3	118	8	5	105	48,000	6,534	43,336	15,200	105,975	47
	1914	3	87	10	.....	77	53,980	.....	33,470	8,411	67,012	46
Elyria <sup>1</sup> .....	1919	3	62	4	5	53	32,096	7,604	30,319	14,127	82,677	71
Hamilton.....	1919	4	91	5	7	79	58,134	6,378	48,288	45,208	124,146	108
	1914	4	57	4	7	46	29,318	4,970	18,081	7,214	43,392	60
Lima.....	1919	3	114	4	8	102	120,446	2,845	68,395	44,304	156,915	135
	1914	3	114	4	11	99	70,715	6,796	41,811	15,559	98,124	180
Lorain <sup>1</sup> .....	1919	3	93	4	10	79	105,148	17,044	75,410	36,216	185,520	84
Mansfield.....	1919	4	52	5	1	49	19,810	.....	26,555	13,730	61,244	61
	1914	3	55	5	1	49	48,111	425	18,986	7,408	43,425	87
Springfield.....	1919	4	111	3	7	101	117,882	13,440	57,160	28,890	127,361	203
	1914	5	108	4	9	95	72,600	11,876	38,749	14,672	80,456	97

<sup>1</sup> Not reported in 1914.

## MANUFACTURES.

TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.
			Total.	Proprietors and firm members.	Salaried em-ployees.	Wage earners (average number).						
OHIO—Continued.												
Tiffin.....	1919	3	41	5	6	30	\$18,375	\$4,093	\$16,930	\$15,262	\$50,550	50
	1914	3	32	5	1	26	15,539	780	10,352	3,538	27,980	34
Toledo.....	1919	13	457	9	83	305	401,006	140,272	256,730	141,164	777,640	1,547
	1914	16	499	7	66	420	292,681	68,529	203,344	74,233	565,203	830
Warren.....	1919	4	78	4	7	67	21,400	10,104	45,715	26,476	101,867	70
	1914	4	63	5	1	57	42,125	1,273	30,681	7,100	70,983	81
Youngstown.....	1919	4	296	40	266	671,115	45,610	224,147	105,553	472,749	261	
	1914	5	274	6	10	249	187,025	16,562	132,205	65,114	286,136	278
OKLAHOMA.....	1910	99	2,355	117	244	1,904	2,157,041	376,873	1,330,751	875,092	3,561,059	2,191
	1914	101	1,632	115	101	1,416	980,074	100,677	653,320	350,743	1,069,721	1,700
Muskogee.....	1919	5	167	8	10	149	113,541	20,133	100,616	81,159	253,369	160
	1914	7	148	7	8	133	59,980	8,572	59,545	41,286	152,934	171
Oklahoma City.....	1919	4	531	2	81	448	638,525	125,978	286,091	151,898	807,936	323
	1914	5	330	7	28	205	109,648	29,518	149,713	64,531	373,912	252
Tulsa.....	1919	6	293	6	23	264	294,919	37,342	186,946	136,673	513,457	150
	1914	3	38	3	1	34	57,834	1,560	18,808	7,736	50,327	41
OREGON.....	1910	73	2,253	60	160	2,033	2,117,225	287,322	1,778,045	723,313	3,620,083	2,334
	1914	78	1,969	74	150	1,745	1,669,317	174,382	961,677	385,166	2,146,868	2,338
Eugene City <sup>1</sup> .....	1919	3	65	3	-----	62	46,462	-----	41,388	10,861	69,131	44
Portland.....	1910	2	1,426	9	118	1,299	1,273,267	225,490	1,214,017	452,358	2,452,794	1,302
	1914	31	1,320	20	115	1,185	1,155,750	135,241	651,399	259,111	1,489,882	1,514
Salom.....	1919	3	56	2	4	50	59,902	6,100	20,558	12,915	74,323	73
	1914	3	59	3	4	52	42,575	4,640	24,738	5,154	45,991	111
PENNSYLVANIA.....	1919	351	9,956	369	1,003	8,584	10,042,553	1,450,300	5,720,792	3,078,721	14,351,068	13,780
	1914	396	11,831	447	974	10,410	8,100,248	884,289	4,230,358	1,848,109	10,225,004	12,602
Allentown.....	1919	3	70	4	6	60	69,384	6,168	36,668	30,190	81,335	68
	1914	5	86	6	5	75	56,501	3,186	27,070	6,336	69,092	91
Chester <sup>1</sup> .....	1919	4	109	3	9	97	138,594	13,880	53,010	26,498	120,349	112
Erle.....	1919	7	233	4	27	202	157,180	52,838	171,067	61,441	358,150	223
	1914	7	219	3	12	204	85,036	10,540	92,911	28,435	177,678	227
Harrisburg.....	1919	8	353	12	40	301	454,404	46,480	171,547	89,338	481,433	520
	1914	8	303	11	36	316	293,729	29,010	119,222	77,761	281,558	385
Johnstown.....	1919	4	1	153	14	184	117,123	28,188	71,391	32,422	165,498	109
	1914	3	114	5	6	103	47,420	4,208	39,069	16,487	80,264	99
Lancaster.....	1910	4	121	3	12	106	148,111	15,519	68,483	25,658	153,201	185
	1914	3	161	3	14	144	139,634	11,899	57,200	10,256	150,150	211
Philadelphia.....	1910	97	8,491	103	297	3,091	3,721,104	447,980	2,338,433	1,197,887	5,767,846	3,792
	1914	91	4,277	113	330	3,834	2,783,682	278,000	1,003,193	801,356	3,974,099	3,538
Pittsburgh.....	1919	25	1,692	11	244	1,437	2,108,350	376,488	916,821	504,088	2,545,532	3,573
	1914	25	2,169	11	254	1,904	1,713,036	283,446	854,934	324,777	2,035,245	2,467
Reading.....	1910	7	121	7	13	111	195,850	20,487	70,993	34,136	172,800	182
	1914	12	175	12	8	156	108,655	6,010	62,266	24,128	135,477	294
Wilkes-Barre.....	1910	5	167	1	18	148	178,039	27,455	90,902	48,941	218,781	143
	1914	7	195	5	15	175	181,392	13,072	83,242	20,668	143,249	234
Williamsport.....	1919	6	64	6	2	56	57,500	1,744	23,692	18,681	57,406	120
	1914	7	113	9	4	100	64,080	3,504	33,985	18,234	78,233	136
York.....	1919	7	138	9	14	115	221,420	17,047	61,030	30,309	154,665	212
	1914	7	143	9	4	130	142,600	2,636	60,643	18,406	136,770	188
RHODE ISLAND.....	1919	70	1,272	87	150	1,035	1,181,827	201,405	805,303	457,898	2,154,652	2,257
	1914	66	1,402	70	140	1,192	684,194	135,280	544,455	230,004	1,260,942	1,829
Newport.....	1919	8	156	10	7	139	98,718	8,630	86,010	54,645	195,653	141
	1914	7	127	8	8	111	51,331	6,800	50,088	16,608	84,248	187
Pawtucket.....	1919	12	170	20	8	142	162,432	9,800	112,402	60,941	278,793	390
	1914	6	185	10	10	165	63,934	6,153	76,958	27,612	151,421	285
Providence.....	1919	26	786	27	131	628	758,724	178,175	502,817	257,533	1,416,470	1,161
	1914	27	915	25	115	775	503,189	117,860	348,184	156,088	850,110	880
Warwick <sup>1</sup> .....	1919	4	32	5	-----	27	59,175	-----	17,104	7,683	30,680	104
Woonsocket.....	1919	6	33	7	1	25	17,610	600	22,022	12,047	64,874	133
	1914	8	64	10	3	51	24,672	1,900	23,992	12,108	64,020	108
SOUTH CAROLINA.....	1919	28	723	20	69	625	555,911	91,983	816,689	237,036	833,801	654
	1914	23	588	24	47	517	265,692	37,213	146,556	95,898	422,212	604
Charleston.....	1919	4	172	1	15	156	192,623	23,928	72,368	77,738	215,008	270
	1914	4	186	2	18	146	83,222	11,609	47,659	32,070	120,900	140
Columbia.....	1919	7	123	4	20	99	64,400	26,949	62,040	44,347	149,783	124
	1914	3	149	2	7	140	53,228	8,900	31,047	22,310	108,078	82
Greenville.....	1919	3	128	8	18	102	72,938	20,754	41,338	35,749	143,808	53
	1914	3	79	7	8	64	34,016	5,103	20,713	11,046	40,592	115
SOUTH DAKOTA.....	1919	29	542	29	44	489	841,521	62,908	348,308	252,605	940,179	702
	1914	26	464	29	25	400	852,747	24,559	190,492	112,555	477,474	520
Aberdeen.....	1919	3	137	2	11	124	258,392	23,370	97,266	54,352	244,193	-----
Sioux Falls.....	1919	3	114	6	10	98	55,644	11,457	42,527	22,843	107,032	88
	1914	5	107	5	10	92	194,607	10,882	76,045	50,522	209,197	-----
	1914	3	93	4	4	85	79,603	3,128	44,789	28,326	123,147	93

<sup>1</sup> Not reported in 1914.

## POWER LAUNDRIES.

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TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse-power.
			Total.	Proprietors and firm members.	Salaried em-ployees.	Wage earners (average number).						
TENNESSEE.....	1919	50	3,041	51	297	2,693	\$2,113,707	\$434,931	\$1,292,035	\$837,634	\$3,639,602	3,621
	1914	67	2,898	62	256	2,580	1,558,029	214,819	908,671	437,720	2,206,797	3,107
Chattanooga.....	1919	5	400	7	348	45	227,970	57,384	201,635	117,803	515,642	278
	1914	6	379	7	26	346	160,349	22,047	121,032	45,338	287,562	273
Knoxville.....	1919	8	334	8	24	302	206,769	54,049	157,156	142,318	479,793	412
	1914	8	327	8	24	295	105,469	18,042	88,821	72,307	224,389	302
Memphis.....	1919	7	996	2	90	904	702,746	146,460	450,039	261,217	1,228,590	1,165
	1914	8	1,042	2	67	973	673,517	66,826	402,426	160,031	869,647	1,239
Nashville.....	1919	7	821	5	94	722	622,777	130,654	294,416	163,879	815,600	862
	1914	6	636	6	100	530	370,115	76,064	163,349	73,943	565,471	497
TEXAS.....	1919	171	6,321	175	678	5,468	5,582,000	950,709	3,309,532	2,070,207	9,249,915	5,918
	1914	185	5,254	221	428	4,605	3,443,394	485,562	2,117,949	1,071,622	5,521,841	6,063
Amarillo.....	1919	3	94	3	11	80	111,588	13,697	72,159	32,447	211,208	95
	1914	3	82	—	9	73	72,173	9,526	45,533	18,603	110,384	85
Austin.....	1919	5	96	8	3	85	102,945	5,670	52,584	35,537	118,353	103
	1914	4	118	5	5	108	33,653	4,217	41,795	18,223	93,267	104
Beaumont.....	1919	4	277	—	38	230	264,512	84,396	130,074	117,327	499,778	—
	1914	3	167	3	26	139	97,112	32,216	69,245	23,763	238,926	214
Dallas.....	1919	9	825	4	123	698	567,608	144,350	374,857	167,827	1,170,280	619
	1914	10	637	4	83	550	376,026	109,058	253,621	108,862	755,897	815
El Paso.....	1919	6	423	2	35	386	412,071	51,347	187,285	103,748	478,786	318
	1914	8	289	6	24	259	237,423	26,673	101,770	65,341	280,046	260
Fort Worth.....	1919	9	659	12	57	590	480,609	69,723	399,874	182,948	961,597	376
	1914	7	400	6	33	361	334,262	30,788	171,172	53,007	423,867	336
Galveston.....	1919	3	199	4	31	164	197,125	53,533	99,249	51,557	326,778	120
	1914	3	255	—	41	214	195,610	55,447	96,811	51,487	308,764	175
Houston.....	1919	9	731	3	116	612	731,177	198,247	363,730	255,244	1,126,529	825
	1914	8	648	6	83	559	422,509	89,851	206,630	226,024	748,419	640
Paris.....	1919	3	121	2	11	108	111,431	15,642	73,718	83,983	138,899	88
	1914	3	125	17	5	103	109,500	7,236	42,082	22,866	101,262	135
San Antonio.....	1919	9	562	2	38	522	422,805	83,462	319,578	178,474	994,452	344
	1914	9	472	4	31	437	313,838	33,270	212,728	73,658	402,348	577
Waco.....	1919	5	254	5	13	236	196,362	19,658	129,307	71,300	366,037	220
	1914	5	244	6	5	233	73,310	5,950	111,625	47,743	161,398	164
UTAH.....	1919	27	1,213	20	153	1,040	1,954,860	199,280	767,711	379,339	1,973,186	1,865
	1914	36	1,197	31	96	1,070	1,213,651	108,567	580,473	321,923	1,367,433	1,926
Ogden.....	1919	5	175	2	25	148	197,975	30,874	111,115	58,187	278,254	343
	1914	8	169	8	13	148	186,283	15,602	82,467	202,018	239	—
Salt Lake City.....	1919	10	801	5	79	717	1,506,538	118,087	547,225	265,251	1,376,035	1,301
	1914	12	846	9	80	757	903,093	89,655	412,938	218,514	998,749	1,400
VERMONT.....	1910	28	364	32	8	324	263,957	16,631	179,090	97,392	399,668	478
	1914	41	441	49	14	378	233,082	7,628	146,014	63,214	362,041	518
Burlington.....	1919	4	83	5	—	78	56,300	—	47,365	27,822	97,718	79
	1914	5	68	6	4	88	34,017	2,536	30,660	10,270	87,080	73
Rutland.....	1919	3	33	3	2	28	14,500	1,500	16,254	9,881	40,813	72
	1914	5	56	6	4	46	46,605	1,656	22,189	9,724	48,302	73
VIRGINIA.....	1919	63	2,674	51	256	2,307	1,724,255	326,067	1,110,703	658,519	3,009,759	1,980
	1914	71	1,065	76	195	1,094	1,055,152	107,266	524,337	285,809	1,453,912	1,918
Lynchburg.....	1919	4	203	2	20	181	175,204	36,920	90,477	48,992	271,813	178
	1914	3	210	1	18	191	85,085	26,602	58,608	31,839	183,113	100
Newport News <sup>1</sup> .....	1919	4	175	2	21	152	193,319	28,013	80,474	44,647	198,961	106
	1910	6	320	4	69	247	311,324	166,741	145,174	72,329	624,147	256
Norfolk.....	1914	8	344	7	57	280	316,118	50,549	82,156	44,403	301,480	260
	1919	4	92	5	7	80	93,100	5,600	47,039	30,337	105,630	92
Petersburg.....	1914	3	61	4	2	55	41,218	1,940	19,086	7,006	44,540	54
Portsmouth.....	1910	3	73	2	18	53	46,705	22,103	27,858	27,131	66,918	55
	1914	3	69	3	5	61	26,820	4,240	14,740	9,515	45,500	53
Richmond.....	1910	8	1,048	5	63	980	372,617	70,092	342,732	155,991	787,114	465
	1914	10	559	11	68	480	252,802	47,988	167,856	96,341	420,599	460
Roanoke.....	1919	5	164	2	22	140	89,114	27,439	96,973	83,279	232,821	196
	1914	6	151	6	8	137	94,852	10,052	40,336	24,123	109,151	188
WASHINGTON.....	1919	177	4,032	180	313	3,539	3,595,777	515,812	3,387,500	1,350,049	7,336,715	4,932
	1914	192	3,744	205	241	3,298	2,838,558	205,045	1,805,268	655,300	4,251,020	4,022
Aberdeen.....	1919	4	82	5	5	72	60,211	268,808	1,565,472	18,895	116,112	66
	1914	4	69	7	5	57	26,436	3,036	34,378	12,200	68,784	91
Bellingham.....	1910	3	104	4	4	96	84,721	5,471	90,103	34,210	175,186	150
	1914	4	80	6	5	69	78,926	3,078	43,239	12,348	81,643	105
Everett.....	1919	6	138	10	6	122	141,238	6,512	99,257	46,280	207,492	176
	1914	6	107	6	6	95	108,590	8,990	47,939	23,390	107,012	109
Seattle.....	1919	42	1,619	27	149	1,443	1,349,412	268,808	1,505,472	468,752	3,282,896	1,525
	1914	49	1,445	32	112	1,401	1,140,693	121,063	840,928	258,013	1,837,655	1,241
Spokane.....	1919	13	543	7	54	482	585,245	90,621	414,930	197,542	972,505	667
	1914	17	585	13	45	527	514,385	55,945	321,256	81,643	745,375	659
Tacoma.....	1919	25	497	26	41	430	380,036	55,318	402,750	192,407	872,088	480
	1914	17	395	15	20	350	206,350	22,590	198,817	66,079	415,836	388

<sup>1</sup> Not reported in 1914.

## MANUFACTURES.

TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920) WITH 3 OR MORE ESTABLISHMENTS: 1919 AND 1914—Continued.

STATE AND CITY.	Census year.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Primary horse- power.
			Total.	Pri- prietors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).						
WEST VIRGINIA.....	1910	44	1,057	50	87	920	\$1,175,092	\$116,587	\$616,267	\$327,396	\$1,775,340	1,457
	1914	44	929	35	67	827	689,640	61,417	358,301	133,119	785,782	1,305
Charleston.....	1910	5	154	7	28	119	238,781	31,731	89,704	37,682	219,380	266
	1914	3	115	10	105	41,827	10,216	44,502	15,242	98,613	129	
Clarksburg.....	1910	3	120	1	10	109	192,362	14,348	79,900	27,950	185,906	104
	1914	3	100	1	6	93	140,643	6,833	49,408	11,951	97,500	176
Fairmont.....	1910	5	95	7	7	81	78,452	6,660	53,581	21,697	111,648	143
	1914	3	81	6	75	70,787	4,870	32,090	8,555	62,748	160	
Huntington.....	1910	4	125	7	5	113	137,651	6,050	79,806	17,168	187,651	135
	1914	4	89	5	7	77	28,650	6,140	34,303	16,650	78,992	92
Parkersburg.....	1910	3	118	2	9	107	110,143	16,744	57,821	28,797	131,550	116
	1914	3	129	2	10	117	110,741	8,217	46,863	24,505	104,217	100
Wheeling.....	1910	3	116	11	105	212,613	10,436	76,310	73,980	201,854	297	
	1914	3	132	12	120	103,683	12,883	57,750	18,200	127,513	129	
WISCONSIN.....	1910	145	2,529	135	271	2,123	2,033,047	362,073	1,328,275	926,618	3,650,118	4,071
	1914	150	2,045	161	219	2,235	1,794,553	201,026	930,930	526,486	2,353,183	3,175
Beloit.....	1910	4	58	6	52	80,091	-----	30,867	21,166	70,797	183	
	1914	4	57	7	50	53,251	-----	21,412	14,320	44,957	53	
Green Bay.....	1910	3	51	2	5	44	60,654	8,424	20,107	12,144	65,502	139
	1914	3	66	5	7	54	40,394	5,798	21,604	8,507	53,938	78
Kenosha.....	1910	6	97	10	3	84	53,061	3,730	55,633	42,361	156,509	125
	1914	6	69	8	2	59	20,584	701	23,344	18,871	52,235	122
La Crosse.....	1910	5	111	3	13	95	136,015	15,555	63,890	35,605	163,113	154
	1914	4	124	1	11	112	64,999	10,008	46,831	18,203	122,734	120
Madison.....	1910	5	116	7	9	100	80,793	9,400	19,922	8,495	172,441	223
	1914	3	97	5	1	91	115,947	1,140	43,934	21,703	90,724	85
Manitowoc.....	1910	4	38	4	34	34	34,725	-----	23,657	13,342	51,461	100
	1914	3	18	6	12	140	194,250	24,005	2,953	3,644	17,405	35
Milwaukee.....	1910	32	959	20	124	816	851,824	168,688	549,867	308,697	1,420,544	1,353
	1914	33	1,133	24	111	998	502,941	109,002	443,904	222,873	1,012,804	1,422
Racine.....	1910	5	145	5	20	120	208,479	27,548	75,393	14,380	239,574	317
	1914	4	98	5	11	82	84,190	12,181	35,085	14,063	98,237	108
Superior.....	1910	3	135	23	112	191,270	39,932	70,057	72,746	244,383	101	
	1914	4	158	18	140	194,250	24,005	50,795	31,660	108,719	144	
WYOMING.....	1910	23	412	19	36	357	424,031	45,290	300,815	148,493	703,953	719
	1914	18	212	22	5	185	174,200	6,440	147,728	64,501	238,048	322
Cheyenne.....	1910	3	108	2	12	94	90,424	15,920	75,280	38,049	205,720	180
	1914	3	69	1	4	64	89,740	5,240	34,426	31,651	87,171	113

TABLE 10.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	13,262	10,830	6,928	196,703	174,881	123,477	100.0	100.0	100.0
Owned.....	3,684	4,902	4,527	147,261	140,817	109,870	74.8	84.0	89.0
Steam <sup>1</sup> .....	3,461	4,423	4,119	144,194	141,224	105,272	73.2	80.8	85.3
Engines.....	3,363	(1)	(1)	139,547	(1)	(1)	70.8	-----	-----
Turbines.....	98	(1)	(1)	4,047	(1)	(1)	2.4	-----	-----
Internal-combustion engines.....	212	368	379	2,908	4,915	4,073	1.5	2.8	3.3
Water.....	11	111	29	159	678	525	0.1	0.4	0.4
Water wheels and turbines.....	7	(1)	(1)	140	(1)	(1)	0.1	-----	-----
Water motors.....	4	(1)	(1)	19	(1)	(1)	(*)	-----	-----
Rented.....	9,578	5,928	2,401	49,532	28,064	13,607	25.2	16.0	11.0
Electric.....	9,578	5,928	2,401	49,587	24,655	11,157	22.3	14.1	9.0
Other.....	-----	-----	-----	5,645	3,409	2,450	2.9	1.9	2.0
Electric.....	17,117	12,260	5,393	75,276	44,168	23,916	100.0	100.0	100.0
Rented.....	9,578	5,928	2,401	43,887	24,655	11,157	58.3	55.8	46.7
Generated by establishments reporting.....	7,539	6,332	2,992	31,389	19,513	12,769	41.7	44.2	53.3

<sup>1</sup>Not reported separately.<sup>2</sup>Less than one-tenth of 1 per cent.

POWER LAUNDRIES.

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TABLE 11.—FUEL CONSUMED, BY DIVISIONS AND STATES: 1919 AND 1914.

DIVISION AND STATE.	COAL.				Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).	DIVISION AND STATE.	COAL.				Coke (ton, 2,000 pounds).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).	
	Anthra-cite <sup>1</sup> (ton, 2,240 pounds).	Bitu-minous (ton, 2,000 pounds).	Coke (ton, 2,000 pounds).	Fuel oils (barrels).				Anthra-cite <sup>1</sup> (ton, 2,240 pounds).	Bitu-minous (ton, 2,000 pounds).	Coke (ton, 2,000 pounds).	Fuel oils (barrels).					
UNITED STATES:																
1919.....	226,527	1,346,010	22,484	729,444	37,502	2,001,285										
1914.....	212,892	1,212,687	16,161	710,500	(2)	3,786,429										
1909.....	178,640	886,734	14,785	372,686	(2)	2,729,324										
Per cent of increase: <sup>2</sup>																
1914-1919.....	6.4	2.7	30.1	7.9		-47.1										
1909-1914.....	19.2	36.8	0.3	90.7		38.7										
NEW ENGLAND:																
1919.....	13,024	118,286	3,109	14,320	1,318	26,521										
1914.....	20,411	109,883	4,469	576	(2)	43,883										
Maine—																
1919.....	2,562	9,508	342	375	11	1,040										
1914.....	2,846	8,531	—	48	(2)	4,088										
New Hampshire—																
1919.....	361	7,275	141	42	38	780										
1914.....	796	7,900	244	92	(2)	2,374										
Vermont—																
1919.....	170	3,403	72	2	57	426										
1914.....	360	3,481	104	18	(2)	1,056										
Massachusetts—																
1919.....	6,712	63,883	1,985	4,014	438	8,663										
1914.....	9,100	59,930	3,777	377	(2)	25,777										
Rhode Island—																
1919.....	542	9,675	—	9,855	16	12,273										
1914.....	1,282	11,723	—	—	—	4,100										
Connecticut—																
1919.....	3,577	24,522	569	344	32	758	3,339									
1914.....	6,027	18,318	—	41	(2)	6,470										
MIDDLE ATLANTIC:																
1919.....	156,567	162,193	8,042	111	3,701	61,877										
1914.....	166,742	131,051	1,363	1,265	(2)	292,787										
New York—																
1919.....	86,048	68,823	1,272	29	2,158	43,867										
1914.....	80,732	55,150	1,363	538	(2)	87,448										
New Jersey—																
1919.....	29,717	24,028	6,076	55	270	7,402										
1914.....	34,389	8,251	—	165	(2)	10,410										
Pennsylvania—																
1919.....	40,802	69,342	94	27	1,333	10,008										
1914.....	51,021	67,050	—	562	(2)	194,879										
EAST NORTH CENTRAL:																
1919.....	32,090	441,162	4,087	587	6,486	218,473										
1914.....	10,809	377,431	1,851	1,475	(2)	884,162										
Ohio—																
1919.....	3,920	97,297	126	—	1,194	164,574										
1914.....	1,994	57,922	651	116	(2)	742,424										
Indiana—																
1919.....	1,031	59,447	849	30	555	10,290										
1914.....	782	68,095	211	217	(2)	28,565										
Illinois—																
1919.....	2,850	182,475	2,249	542	4,117	28,653										
1914.....	4,305	164,198	607	630	(2)	78,843										
Michigan—																
1919.....	2,279	68,183	739	15	549	11,111										
1914.....	1,777	58,417	318	216	(2)	14,601										
Wisconsin—																
1919.....	22,010	33,760	124	—	71	3,880										
1914.....	1,951	28,709	4	296	(2)	29,729										
WEST NORTH CENTRAL:																
1919.....	9,245	232,354	1,529	50,434	5,537	259,357										
1914.....	8,201	227,296	919	52,437	(2)	234,350										
Minnesota—																
1919.....	4,322	42,805	1,013	2	399	5,732										
1914.....	2,148	40,649	12	295	(2)	6,786										
Iowa—																
1919.....	2,652	42,198	334	50	2,204	1,080										
1914.....	23	56,924	435	709	(2)	6,481										
Missouri—																
1919.....	104	81,272	176	51,008	822	20,542										
1914.....	660	72,494	357	45,422	(2)	69,320										
North Dakota—																
1919.....	1,755	6,945	—	67	10	—										
1914.....	40	9,584	—	80	(2)	528										
South Dakota—																
1919.....	12	9,000	—	2	146	403										
1914.....	10	8,141	—	99	(2)	537										
Nebraska—																
1919.....	385	22,800	115	8	325	692										
1914.....	320	20,386	—	469	(2)	4,624										
Kansas—																
1919.....	15	27,334	7	8,297	631	230,910										
1914.....	19	23,238	—	2,354	(2)	196,074										
SOUTH ATLANTIC:																
1919.....	4,151	107,655	1,610	6,894	1,681	240,958										
1914.....	4,967	93,265	775	3,571	(2)	232,895										
Delaware—																
1919.....	117	3,093	26	—	—	1,157										
1914.....	—	2,320	—	—	—	805										

\* Included in figures for fuel oils.

<sup>a</sup> A minus sign (—) denotes decrease.

<sup>1</sup> Includes some semianthracite.

## MANUFACTURES.

TABLE 12.—DETAILED STATEMENT FOR THE INDUSTRY,

DIVISION AND STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members	Salaries of officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Number, 15th day of—	16 and over.		Under 16.			
					Male.	Female.	Average number.	Maximum month.		Male.	Female.	Male.	Female.		
1 UNITED STATES.....	5,678	152,509	5,514	4,953	4,809	5,414	131,870	Ju 134,910	Fe 128,620	135,698	40,007	94,538	411	442	\$153,805,207
2 NEW ENGLAND.....	708	13,782	732	419	303	515	11,813	Jy 12,307	Ja 11,258	12,073	4,360	7,552	39	113	12,625,547
3 Maine.....	81	1,144	81	37	1	32	993	Au 1,199	Ja 814	1,062	333	726	2	1	1,121,566
4 New Hampshire.....	61	708	71	7	2	12	616	Au 688	Ja 566	627	215	410	1	1	380,224
5 Vermont.....	28	364	32	2	1	5	324	Au 360	Ja 302	320	71	248	1	1	253,067
6 Massachusetts.....	340	7,980	330	254	220	385	6,821	Jy 6,951	Ja 6,650	6,914	2,641	4,266	23	84	7,266,319
7 Rhode Island.....	70	1,272	87	45	43	62	1,035	Jy 1,078	Ja 980	1,074	439	609	8	18	1,181,827
8 Connecticut.....	128	2,334	131	74	36	69	2,024	Se 2,092	Ja 1,946	2,076	770	1,293	4	9	2,421,654
9 MIDDLE ATLANTIC.....	1,017	27,774	974	987	614	1,086	24,163	Au 24,690	Fe 23,611	24,884	8,180	16,562	55	87	31,333,752
10 New York.....	535	18,757	495	462	265	537	11,998	Au 12,832	Fe 11,671	12,553	4,360	8,203	7	4	15,758,753
11 New Jersey.....	131	4,061	110	130	124	116	8,581	Au 3,788	Fe 3,434	8,655	1,810	2,809	6	21	4,632,446
12 Pennsylvania.....	351	9,956	369	345	226	433	8,581	No 8,718	Ja 8,407	8,646	2,492	6,050	42	62	10,942,553
13 EAST NORTH CENTRAL.....	1,247	38,108	1,184	1,168	1,293	1,240	28,223	Jy 28,795	Fe 27,714	28,970	8,118	20,701	31	120	32,622,122
14 Ohio.....	277	8,316	273	265	388	352	7,040	De 7,233	Fe 6,923	7,280	2,206	5,067	3	4	8,209,500
15 Indiana.....	158	4,328	153	148	315	144	3,508	De 3,681	Fe 3,437	3,715	900	2,706	2	47	3,629,011
16 Illinois.....	470	12,189	405	467	365	373	10,570	Jy 10,702	Fe 10,451	10,677	3,172	7,448	14	48	12,027,971
17 Michigan.....	197	5,746	218	182	174	259	4,913	Jy 5,238	Fe 4,577	5,121	1,241	3,864	8	8	5,421,984
18 Wisconsin.....	145	2,529	135	106	53	112	2,123	Au 2,159	Ap 2,070	2,177	539	1,616	4	18	2,633,047
19 WEST NORTH CENTRAL.....	713	18,133	699	614	443	704	15,678	Jy 15,891	Fe 15,232	15,774	4,178	11,564	9	23	19,204,470
20 Minnesota.....	158	3,818	156	116	83	186	3,277	De 3,350	Se 3,210	3,404	809	2,496	2	7	3,907,932
21 Iowa.....	129	2,406	137	93	54	108	2,074	Jy 2,140	My 2,012	2,132	570	1,562	-----	2,589,074	
22 Missouri.....	165	6,839	112	240	205	285	5,997	De 6,085	Fe 5,937	6,270	1,544	4,721	3	11	7,321,472
23 North Dakota.....	29	488	27	11	10	14	426	Au 459	Ja 377	456	122	334	-----	615,070	
24 South Dakota.....	29	542	29	18	9	17	409	Au 395	Fe 328	494	127	364	1	2	841,521
25 Nebraska.....	69	1,710	73	73	49	44	1,471	Au 1,532	Ja 1,397	1,642	400	1,137	2	3	1,006,483
26 Kansas.....	136	2,270	165	68	33	50	1,959	Jy 2,024	Ja 1,881	1,467	516	950	1	-----	1,982,027
27 SOUTH ATLANTIC.....	351	13,746	305	498	403	370	12,080	De 12,480	Ap 11,741	12,638	3,388	9,210	21	10	10,086,205
28 Delaware.....	6	300	10	4	-----	2	284	Je 283	Mh 276	285	89	195	-----	1	375,380
29 Maryland.....	46	1,888	39	56	95	78	1,619	De 1,639	Mh 1,603	1,688	498	1,101	-----	1,619,051	
30 District of Columbia.....	21	1,805	10	53	45	42	1,055	Jy 1,709	Ap 1,603	1,658	395	1,261	2	1	1,374,200
31 Virginia.....	63	2,674	51	84	102	70	2,387	Au 2,475	Ja 2,260	2,442	608	1,771	-----	3	1,724,255
32 West Virginia.....	44	1,057	50	41	17	29	920	No 967	Ja 862	666	289	679	1	1	1,175,992
33 North Carolina.....	56	1,631	53	71	37	37	1,433	Au 1,497	Ja 1,370	1,457	366	1,000	1	1	1,161,269
34 South Carolina.....	28	723	29	33	22	14	626	No 672	Mh 595	675	188	487	-----	3	655,011
35 Georgia.....	52	2,522	40	98	110	71	2,194	De 2,363	Fe 2,067	2,302	602	1,686	14	1	1,919,132
36 Florida.....	35	1,146	23	68	56	26	983	De 1,117	Mh 878	1,161	203	850	3	6	881,099
37 EAST SOUTH CENTRAL.....	182	8,028	155	249	206	245	7,083	No 7,245	Je 6,920	7,482	1,904	5,290	214	5	5,670,837
38 Kentucky.....	63	2,591	53	102	67	75	2,294	No 2,345	Ja 2,240	2,337	668	1,658	0	2	1,688,280
39 Tennessee.....	59	3,041	51	89	105	103	2,908	Jy 2,783	Ap 2,045	2,928	730	1,992	201	-----	2,113,707
40 Alabama.....	37	1,684	31	38	105	48	1,462	No 1,573	Je 1,284	1,587	384	1,202	1	3	1,260,606
41 Mississippi.....	23	712	20	20	19	10	934	Jy 661	Ja 611	635	182	447	3	3	527,254
42 WEST SOUTH CENTRAL.....	343	11,558	355	300	474	335	10,004	Se 10,452	Fe 9,463	10,505	2,906	7,617	17	25	9,885,520
43 Arkansas.....	49	1,045	46	36	5	21	937	Se 973	Ap 910	1,026	257	760	-----	6	938,445
44 Louisiana.....	24	1,837	17	60	94	61	1,605	Au 1,652	Ja 1,529	1,655	444	205	-----	1	1,449,125
45 Oklahoma.....	99	2,355	117	100	78	66	1,994	Se 2,085	Ja 1,887	2,025	475	1,519	14	17	2,157,041
46 Texas.....	171	6,321	175	194	297	187	5,468	De 5,808	Fe 5,072	5,859	1,730	4,124	3	2	5,582,000
47 MOUNTAIN.....	281	6,932	237	231	222	238	6,004	Au 6,394	Mh 5,716	6,080	1,687	4,380	5	17	7,881,234
48 Montana.....	49	1,002	34	40	29	18	971	Jy 1,020	No 933	1,011	267	743	1	-----	1,373,349
49 Idaho.....	40	652	38	18	10	15	571	Je 602	Fe 539	580	164	416	-----	877,500	
50 Wyoming.....	23	412	19	16	3	17	357	Au 395	Fe 325	359	82	274	1	2	424,031
51 Colorado.....	92	2,470	86	80	112	106	2,088	Au 2,286	Mh 1,956	2,120	545	1,564	-----	11	2,255,955
52 New Mexico.....	18	326	15	5	8	6	292	Au 328	Fe 263	251	78	170	2	1	332,123
53 Arizona.....	21	598	13	24	10	12	539	Jy 562	Fe 508	564	150	411	3	1	444,081
54 Utah.....	27	1,213	20	42	50	61	1,040	Au 1,085	Mh 1,006	1,056	339	717	-----	1	1,054,819
55 Nevada.....	13	169	12	6	-----	3	148	My 155	Oc 142	148	62	85	1	-----	218,366
56 PACIFIC.....	836	19,508	873	447	671	681	16,836	De 17,240	Ap 16,409	17,223	5,217	11,944	20	42	24,080,481
57 Washington.....	177	4,032	180	128	58	127	3,539	De 3,686	Mh 3,400	3,684	1,114	2,568	1	1	8,595,777
58 Oregon.....	73	2,253	60	57	23	80	2,033	Au 2,127	Ja 1,938	1,861	381	1,479	1	1	2,117,225
59 California.....	586	13,223	633	262	590	474	11,264	Jy 11,530	Ap 11,009	11,678	3,722	7,807	18	41	18,373,179

<sup>1</sup> Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).<sup>2</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

**POWER LAUNDRIES.**

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BY DIVISIONS AND STATES: 1919.

EXPENSES.									POWER.						Electric horsepower generated in establishments reporting.
Salaries and wages.			Rent and taxes.			For materials.			Primary horsepower.			Owned.			Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Amount received for work done.	Total.	Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. <sup>1</sup>	Rent-ed. <sup>2</sup>	
\$13,398,761	\$10,299,424	\$92,888,837	\$1,551,364	\$3,864,409	\$2,666,160	\$39,694,801	\$13,807,376	\$236,382,360	106,703	139,547	4,647	2,908	159	49,532	31,380 1
709,718	702,303	8,891,047	707,896	337,892	210,727	3,081,050	1,425,497	21,402,586	20,762	15,920	257	190	134	4,261	2,036 2
58,033	22,449	607,083	6,392	10,208	17,750	284,565	128,263	1,514,854	1,577	1,032	60	14	471	27	3
12,350	9,353	486,877	5,004	15,772	5,771	107,305	87,081	988,856	1,302	930	50	17	282	-----	4
3,018	13,515	179,000	810	9,104	4,439	57,748	39,644	178	178	178	178	178	178	1	5
624,695	511,331	5,285,153	738,385	215,370	147,082	1,708,535	777,316	12,864,270	11,502	8,846	127	112	25	2,392	1,523 6
101,207	97,198	805,303	4,040	25,516	18,766	315,904	141,904	2,154,652	2,257	1,774	21	21	462	216	7
177,417	108,467	1,531,432	13,265	55,013	25,910	548,999	250,700	3,560,276	3,646	3,156	20	26	49	395	269
2,701,806	1,608,021	18,184,705	188,147	770,127	549,650	7,552,687	2,640,944	40,070,130	41,120	31,679	1,037	735	10	7,668	6,808 0
1,545,712	725,451	9,600,451	120,272	486,527	233,659	4,207,503	1,414,885	24,627,441	21,112	15,825	667	267	10	4,343	3,079 10
413,271	256,002	2,883,462	7,100	88,833	139,821	1,007,111	785,411	7,091,621	0,257	5,394	250	39	-----	574	1,320 11
892,892	626,568	5,720,702	60,685	197,767	176,179	2,338,073	740,618	14,351,068	13,760	10,460	120	429	2,751	1,599	12
2,847,471	2,402,929	19,824,175	291,672	847,113	536,622	9,581,345	2,911,709	51,769,615	43,422	30,181	1,501	647	-----	11,063	8,040 13
818,651	801,708	4,703,668	64,080	180,825	134,208	2,181,743	692,794	12,528,344	12,107	7,930	477	454	-----	3,246	1,755 14
322,967	213,890	2,107,084	24,495	90,580	40,095	1,215,940	340,559	5,588,748	5,260	3,589	180	12	1,520	749	15
1,213,086	874,072	7,895,080	173,575	392,325	226,940	3,864,740	1,078,172	20,600,032	14,833	10,960	621	87	-----	3,165	3,814 16
477,031	458,924	3,780,170	26,372	116,127	93,927	1,651,581	540,805	9,416,373	7,151	4,079	5	44	-----	2,423	1,333 17
217,736	144,337	1,328,275	3,141	67,286	35,302	607,329	250,289	3,650,118	4,071	3,023	268	50	-----	730	339 18
1,440,537	1,023,730	10,583,132	47,357	687,684	341,749	5,061,791	1,888,198	27,390,421	22,112	16,850	221	260	-----	4,781	6,433 19
282,947	251,778	2,415,506	8,884	154,550	61,306	1,038,104	399,514	6,087,088	4,706	3,030	25	10	-----	1,101	1,007 20
193,675	164,274	1,372,508	12,128	281,804	58,121	603,582	207,828	3,904,658	3,108	2,406	5	5	757	21	21
552,291	382,397	3,909,456	17,624	160,661	91,051	1,972,108	572,105	9,438,493	8,243	7,406	34	132	671	5,027	22
38,128	19,464	277,297	1,233	14,566	10,061	175,950	79,276	844,433	506	167	6	6	333	12	23
39,188	23,722	348,308	3,278	11,118	11,790	172,517	80,088	940,179	702	205	83	-----	354	115	24
219,802	104,832	979,217	3,900	61,523	24,358	461,617	185,142	2,823,234	1,942	1,394	10	7	531	222	25
114,508	77,270	1,250,845	910	53,132	84,063	637,814	274,245	3,358,336	2,785	1,682	69	100	1,034	50	26
1,158,508	815,907	6,731,272	20,131	282,769	264,279	3,165,305	1,025,633	18,211,883	13,765	10,648	80	205	-----	2,832	2,200 27
11,180	2,755	220,984	585	4,280	70,004	25,818	444,055	334	320	-----	-----	14	-----	28	
123,316	163,101	968,450	1,514	24,387	23,533	552,892	137,841	2,640,686	2,341	2,077	-----	-----	264	316	29
193,571	120,897	1,049,580	4,882	32,820	37,402	367,520	113,507	2,589,210	1,633	1,590	-----	48	987	30	
225,613	100,454	1,110,703	200	43,856	46,102	485,642	172,877	3,000,759	1,989	1,238	-----	751	13	31	
78,005	38,582	616,267	24,188	16,896	251,678	75,718	1,775,349	1,457	1,057	105	-----	295	160	32	
138,505	68,127	755,188	950	39,054	21,585	317,814	144,226	2,252,100	1,354	867	75	85	337	95	33
58,258	33,725	316,680	5,105	21,378	5,838	107,749	60,287	833,801	654	340	-----	314	40	34	
223,830	202,343	1,205,256	1,837	58,061	73,550	689,745	183,150	3,210,832	2,506	1,897	2	2	667	245	35
106,224	85,923	488,157	5,643	33,931	35,083	262,282	103,209	1,480,051	1,437	1,272	5	13	147	348	36
572,990	531,102	3,500,610	32,870	185,950	115,675	1,801,873	574,384	9,687,736	12,874	6,713	612	37	-----	5,512	1,544 37
176,801	1,133,377	601	11,185	40,187	63,741	175,278	2,905,340	5,762	2,820	392	35	-----	3,006	250 38	
192,738	242,193	1,292,035	2,062	60,635	42,749	621,221	216,413	3,039,602	3,621	2,088	180	-----	768	609	39
158,882	190,395	771,293	3,100	55,754	22,676	341,777	121,744	2,196,118	1,675	1,248	40	2	387	339	40
44,509	33,339	319,905	26,018	8,376	10,063	225,151	60,951	940,670	1,810	460	-----	-----	1,366	280	41
914,106	830,209	6,067,083	26,008	205,284	253,737	2,773,975	996,246	16,553,772	10,945	7,544	110	307	-----	2,975	1,017 42
60,492	28,954	510,125	26,266	24,370	238,573	101,016	1,303,024	1,058	708	-----	54	-----	206	150	43
177,800	151,637	788,575	2,003	22,282	45,530	366,900	119,304	2,349,774	1,778	1,410	-----	359	12	44	
212,385	161,488	1,330,751	250	45,656	33,684	628,705	246,387	3,561,080	2,101	1,267	29	78	817	42	45
463,489	487,220	3,399,532	23,515	111,080	150,253	1,540,788	529,500	9,249,915	5,018	4,150	90	175	1,503	813	46
556,700	468,133	4,577,050	9,413	165,647	168,141	1,749,001	707,985	11,330,923	8,081	6,532	302	65	-----	2,082	1,455 47
96,907	66,984	839,771	100	25,950	25,841	343,189	130,000	1,894,356	1,463	1,082	-----	7	374	4	48
34,145	25,275	487,635	2,565	10,339	10,515	216,552	106,629	1,179,846	756	200	-----	6	460	114	49
29,270	16,020	300,815	20,421	8,265	9,100	55,384	-----	1,703,953	719	504	-----	6	209	66	50
224,729	217,404	1,437,628	2,210	74,870	57,715	510,599	177,938	3,759,849	2,925	2,114	290	40	481	-----	51
12,190	13,920	171,508	2,850	6,792	5,130	68,473	37,136	432,279	345	208	-----	6	131	10	52
51,048	20,800	430,605	1,688	12,080	10,853	170,794	82,946	887,438	685	502	-----	183	10	53	
95,036	104,244	767,711	-----	11,364	46,618	294,834	84,505	1,073,166	1,885	1,607	123	108	1,254	54	
12,484	8,396	142,285	-----	3,731	3,204	49,541	30,047	340,036	223	165	12	-----	46	55	
1,136,857	1,736,811	14,468,057	170,210	432,013	416,571	4,927,678	1,736,780	33,879,304	22,803	13,480	518	402	15	8,328	1,763 56
318,044	197,768	3,387,500	10,728	149,724	102,847	1,039,526	310,523	7,336,715	4,932	3,480	198	2	-----	1,252	428 57
165,571	71,751	1,778,645	6,664	35,145	516,112	207,201	3,629,933	2,384	1,861	20	15	453	114	58	
653,242	1,467,292	9,301,912	152,818	247,145	280,579	3,372,040	1,210,056	22,912,606	15,537	13,130	320	440	15	6,623	1,221 59

\* Same number reported for one or more other months.

## DYEING AND CLEANING.

**General character of the industry.**—Dyeing and cleaning is not considered a manufacturing industry, and statistics relating thereto were not gathered at prior censuses, but at the census of 1919 reports were secured for establishments operated by mechanical power, which, as in the laundry industry, has been taken as a basis for segregating the establishments operated on a factory basis from the numerous neighborhood establishments of a hand character, engaged in cleaning and pressing, and to some extent in dyeing. The industry is not to be confused with "Dyeing and finishing textiles," which embraces establishments engaged in the bleaching, dyeing, and mercerizing of yarns and fabrics, an important branch of the great textile industry. These statistics are not included in the report for the manufacturing industries.

**Summary.**—Table 1 presents the general statistics for 1919, in harmony with Table 1 of the report on power laundries, which gives comparative statistics for that industry for prior years.

**Summary, by states.**—Statistics are presented in Table 2 for the chief factors, number of establishments, number of persons engaged in the industry, and the amount received for work done, by geographic divisions and states, together with the urban population. The states are grouped by geographic divisions so as to bring together those operating under similar industrial conditions. Every state is represented by a sufficient number of establishments to permit of the statistics being reported separately, with the exception of Nevada, which has been combined with Utah.

**Persons engaged in the industry.**—The age classification of the average number of wage earners in Table 3 and other tables is an estimate obtained by the method described in the "Explanation of terms," page 2. Detailed figures for states will be found in Table 12.

**Wage earners, by months.**—The statistics for wage earners in Table 4 are intended to show the steadiness of employment, or the reverse, in accordance with the industrial conditions existing during the year. For the country as a whole, females constituted 43.6 per cent of the average number of wage earners and males 56.4 per cent.

**Prevailing hours of labor.**—A notable feature of Table 5 is the relatively large percentage of wage earners in establishments where the prevailing hours of labor per week were 44 and under, chiefly in the Middle Atlantic and East North Central states. Of the total number of wage earners, 46.5 per cent were in the groups of 48 hours per week or less. Only 5.6 per cent are found in the groups 60 hours per week and over, and the higher groups are most pro-

nounced in the states of the East South Central division.

**Size of establishments, by average number of wage earners.**—The industry is one of relatively small units, as shown by Table 6, 60 per cent of the establishments employing fewer than 6 wage earners, or no wage earners. The table shows only 9 establishments employing more than 100 wage earners.

**Size of establishments, by amount received for work done.**—A classification as to size, on the basis of income, or amount received for work done, is given in Table 7. The average income per establishment for all classes was approximately \$25,000, and the industry includes comparatively few large establishments, only 4 reporting income for work done in excess of \$500,000.

**Character of ownership.**—Table 8 shows that in most states the bulk of the business, whether measured by number of wage earners or by income, is under corporate ownership, although in a number of states there are no establishments under corporate ownership, and in some of the others the income and number of employees in individually owned plants exceed those operated by corporations.

**Statistics for cities.**—Table 9 gives the statistics for cities of 10,000 inhabitants or more reporting 3 or more establishments. The table also carries the figures for the respective states. States not represented by cities are not included.

**Number and horsepower of types of prime movers.**—Table 10 gives the total horsepower reported for the industry. The industry is, relatively, a large consumer of electric power, 71 per cent of the total horsepower being utilized in the form of electrical energy, either purchased or generated.

**Fuel consumed.**—Table 11 shows the consumption of fuel, by kinds and by states. The figures for gas include both manufactured and natural gas.

**Detailed statement, by geographic divisions and states.**—Table 12 presents the statistics in detail for all states, grouped by geographic divisions.

TABLE 1.—SUMMARY, 1919.

	Number or amount.
Number of establishments.....	2,156
Persons engaged.....	24,934
Proprietors and firm members.....	2,285
Salaried employees.....	3,842
Wage earners (average number).....	18,807
Primary horsepower.....	23,046
Capital.....	\$28,734,049
Salaries and wages.....	23,320,907
Salaries.....	5,275,888
Wages.....	18,245,024
Paid for contract work.....	460,660
Rent and taxes.....	2,231,379
Cost of materials.....	11,301,549
Amount received for work done.....	54,421,305

# DYEING AND CLEANING.

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TABLE 2.—URBAN POPULATION AND THE DYEING AND CLEANING INDUSTRY, BY DIVISIONS AND STATES, WITH STATE RANK: 1919.

DIVISION AND STATE.	URBAN POPULATION. <sup>1</sup>		DYEING AND CLEANING.			DIVISION AND STATE.	URBAN POPULATION. <sup>1</sup>		DYEING AND CLEANING.		
			Number.	State rank.	Number of persons engaged in the industry.				Number of establishments.	State rank.	
	Number.	State rank.	Amount.	State rank.	Amount received for work done.		Number.	State rank.	Number of persons engaged in the industry.	Amount received for work done.	Number of establishments.
UNITED STATES.....	47,110,807	.....	2,150	24,034	\$54,421,305						
NEW ENGLAND.....	5,447,404	.....	102	1,542	8,001,502						
Maine.....	252,109	33	12	124	241,671	33					
New Hampshire.....	214,104	34	8	62	111,350	43					
Vermont.....	75,095	40	6	25	42,833	47					
Massachusetts.....	3,247,083	5	45	894	2,252,321	7					
Rhode Island.....	632,408	20	7	174	888,639	27					
Connecticut.....	1,126,625	12	24	261	654,689	23					
MIDDLE ATLANTIC.....	16,151,031	.....	340	4,746	11,248,444	.....					
New York.....	8,230,190	1	150	2,428	5,956,122	1					
New Jersey.....	2,172,199	6	89	536	1,408,447	11					
Pennsylvania.....	4,748,642	2	142	1,783	3,883,875	5					
EAST NORTH CENTRAL.....	11,600,805	.....	548	6,584	14,057,484	.....					
Ohio.....	3,326,337	4	173	2,113	4,657,055	3					
Indiana.....	1,273,203	10	101	825	1,688,752	10					
Illinois.....	3,944,757	2	159	2,110	5,298,935	2					
Michigan.....	2,050,776	7	73	893	2,043,559	8					
Wisconsin.....	1,005,732	13	42	632	1,360,183	12					
WEST NORTH CENTRAL.....	3,788,495	.....	371	3,511	7,502,266	.....					
Minnesota.....	876,532	14	46	629	1,368,915	13					
Iowa.....	636,695	17	70	584	1,333,047	14					
Missouri.....	1,388,187	9	125	1,414	2,827,687	6					
North Dakota.....	47,124	44	14	90	201,086	36					
South Dakota.....	67,031	42	15	78	178,570	88					
Nebraska.....	313,624	29	41	415	983,987	17					
Kansas.....	449,302	24	60	301	603,974	24					
SOUTH ATLANTIC.....	3,590,017	.....	146	1,059	3,543,316	.....					
Delaware.....	111,248	39	3	33	73,834	46					
Maryland.....	820,430	15	9	598	1,011,843	16					

<sup>1</sup> Population of incorporated places (municipalities) as of July 1, 1920.

<sup>2</sup> Combined to avoid disclosure.

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919.

CLASS.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Total.	Male.	Female.	PER CENT OF TOTAL.	
				Male.	Female.					Male.	Female.
All classes.....	24,034	14,482	10,452	58.3	41.9	Clerks and other subordinate salaried employees.....	2,570	610	1,951	24.1	76.9
Proprietors and officials.....	3,557	3,249	308	91.3	8.7	Wage earners (average number).....	18,807	10,614	8,193	56.4	43.6
Proprietors and firm members.....	2,285	2,154	131	94.3	5.7	16 years of age and over.....	18,681	10,509	8,172	56.3	43.7
Salaried officers of corporations.....	631	585	46	92.7	7.3	Under 16 years of age.....	126	105	21	83.3	16.7
Superintendents and managers.....	641	510	131	79.6	20.4						

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES:<sup>1</sup> 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States.....	18,807	16,750	18,839	17,727	18,976	19,066	19,248	19,130	19,241	19,807	20,156	19,748	18,996	83.1
Males.....	10,614	<i>9,544</i>	9,564	9,987	10,622	10,683	10,840	10,791	10,901	11,138	11,327	11,171	10,822	84.3
Females.....	8,193	<i>7,206</i>	7,275	7,760	8,354	8,383	8,408	8,339	8,340	8,671	8,829	8,577	8,174	81.0
California.....	1,687	<i>1,586</i>	1,624	1,631	1,678	1,672	1,674	1,701	1,697	1,746	1,756	1,750	1,728	90.3
Males.....	928	<i>781</i>	800	812	810	820	827	835	844	881	858	856	88.6	
Females.....	859	<i>805</i>	812	831	867	862	854	874	882	892	875	872	89.2	
Illinois.....	1,638	<i>1,474</i>	1,472	1,552	1,660	1,691	1,691	1,662	1,640	1,684	1,744	1,704	1,642	84.4
Males.....	936	<i>845</i>	842	896	944	959	958	948	950	945	1,007	985	963	83.6
Females.....	697	<i>629</i>	630	656	716	732	733	714	690	719	737	719	689	85.5
Indiana.....	509	<i>545</i>	545	572	612	609	606	609	612	611	627	622	618	86.9
Males.....	359	<i>329</i>	328	340	366	365	360	363	366	368	377	374	374	86.2
Females.....	240	<i>216</i>	220	232	246	244	246	246	246	242	250	248	244	86.4
Massachusetts.....	723	<i>585</i>	588	638	742	758	779	761	745	777	805	774	724	72.7
Males.....	407	<i>321</i>	328	346	408	424	448	435	435	440	454	438	409	70.7
Females.....	316	<i>284</i>	290	292	334	334	331	328	310	337	361	338	315	74.1

<sup>1</sup> States with 200 or more wage earners; states with 500 or more wage earners distributed by sex.

## MANUFACTURES.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES:<sup>1</sup> 1919—Continued.  
[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Percent minimum is of maximum.
		Janu-	Febru-	March,	April,	May,	June,	July,	August,	Septem-	Octo-	Novem-	Decem-	
Michigan.....	681	596	<i>690</i>	620	687	676	679	684	730	731	744	734	701	79.3
Males.....	361	318	<i>517</i>	328	352	347	352	363	394	394	395	393	379	80.3
Females.....	320	278	<i>278</i>	292	335	329	327	321	336	337	349	341	322	78.2
Missouri.....	1,062	911	<i>887</i>	978	1,124	1,088	1,088	1,059	1,084	1,160	1,243	1,118	1,004	71.4
Males.....	566	507	<i>601</i>	527	583	576	578	560	568	604	629	608	551	79.6
Females.....	496	404	<i>388</i>	451	541	512	510	499	516	556	614	510	483	62.9
New York.....	1,793	1,650	<i>1,611</i>	1,705	1,798	1,788	1,875	1,831	1,834	1,851	1,899	1,873	1,803	84.8
Males.....	1,100	1,021	<i>978</i>	1,042	1,110	1,101	1,152	1,122	1,122	1,120	1,164	1,152	1,105	83.9
Females.....	693	629	<i>633</i>	668	695	687	723	712	722	733	721	698	668	85.8
Ohio.....	1,594	1,508	1,359	1,510	1,717	1,677	1,680	1,647	1,685	1,714	1,705	1,644	1,523	76.2
Males.....	952	788	<i>708</i>	871	1,018	996	1,006	900	981	1,021	1,031	996	934	75.8
Females.....	642	526	<i>561</i>	639	699	681	683	657	654	693	674	648	589	75.9
Pennsylvania.....	1,320	1,164	<i>1,160</i>	1,227	1,328	1,333	1,346	1,334	1,332	1,375	1,448	1,455	1,378	79.4
Males.....	741	651	<i>653</i>	693	745	740	748	745	748	773	810	807	779	80.4
Females.....	579	503	<i>497</i>	594	583	593	598	589	584	602	638	628	599	77.9
Texas.....	614	540	546	565	590	594	598	623	632	662	672	661	685	78.8
Males.....	417	378	<i>378</i>	388	401	405	416	430	434	443	444	442	445	84.9
Females.....	197	162	<i>168</i>	177	189	189	182	193	198	210	223	219	240	67.5
Alabama.....	220	206	199	<i>193</i>	196	199	214	221	227	246	259	246	237	74.8
Colorado.....	252	217	222	228	252	255	270	275	277	277	280	250	241	78.3
Iowa.....	405	377	<i>375</i>	398	400	402	414	412	406	421	432	428	405	86.8
Kansas.....	203	183	<i>181</i>	187	197	203	198	106	201	224	225	225	216	80.4
Kentucky.....	250	<i>238</i>	241	247	250	260	261	263	263	264	268	274	270	86.9
Maryland.....	441	<i>379</i>	411	440	443	441	448	446	464	463	488	464	425	81.0
Minnesota.....	482	418	<i>417</i>	456	504	510	493	470	485	514	526	502	480	79.3
Nebraska.....	299	<i>246</i>	249	261	291	292	292	301	331	338	340	330	317	72.4
New Jersey.....	455	425	<i>423</i>	435	450	470	470	450	459	463	467	475	464	89.1
Oklahoma.....	255	<i>233</i>	233	234	240	251	251	266	274	284	274	267	263	78.5
Oregon.....	207	192	<i>190</i>	196	207	212	210	203	198	204	223	218	221	83.3
Tennessee.....	390	<i>341</i>	356	380	395	412	402	393	391	416	418	399	379	82.0
Virginia.....	281	280	<i>275</i>	278	284	287	284	277	276	275	284	287	285	95.8
Washington.....	437	388	<i>387</i>	413	458	449	453	460	453	488	425	450	438	79.3
West Virginia.....	232	<i>224</i>	225	225	226	231	232	236	237	235	235	237	241	92.9
Wisconsin.....	475	455	<i>454</i>	466	472	474	482	490	490	475	479	482	481	92.7

<sup>1</sup> States with 200 or more wage earners; states with 500 or more wage earners distributed by sex.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, BY DIVISIONS AND STATES: 1919.

INDUSTRY AND CITY.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						INDUSTRY AND CITY.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—								
		44 and under 44 and 48.	Between 44 and 48.	48.	Between 48 and 54.	54.	Between 54 and 60.			44 and under 48.	Between 44 and 48.	48.	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.	
UNITED STATES...	18,807	1,444	498	6,806	3,876	4,689	434	998	62									
NEW ENGLAND.....	1,185	62	38	562	243	212	61	7	....	SOUTH ATLANTIC—Con.	94							
Maine.....	94			15	7	72	....			District of Columbia	281							
New Hampshire.....	46			20	4	22	4			Virginia	232	30	60	42	91	8	50	
Vermont.....	16	4		4		7				West Virginia	14	63	15	110	3	26	1	
Massachusetts.....	723	37	12	456	130	79	8	1		North Carolina	151	67	4	44	22	12	7	
Rhode Island.....	121	5	20	10	38	48				South Carolina	77	13		23				
Connecticut.....	185	16	6	57	68	32	1	5		Georgia	129	17	30	5	13	64		
MIDDLE ATLANTIC.....	3,568	634	122	631	1,091	909	68	53	....	Florida	66	8	40					
New York.....	1,793	536	17	365	398	480	11	6		EAST SOUTH CENTRAL...	937	27	16	203	8	387	41	241
New Jersey.....	455	57	66	69	224	30	9			Kentucky	259	11	11	48	8	106	15	60
Pennsylvania.....	1,320	41	39	197	469	479	57	38		Tennessee	390	14	4	142		149	78	3
EAST NORTH CENTRAL...	4,982	438	217	1,130	1,818	1,043	99	219	9	Alabama	220	12		112	26	60	10	
Ohio.....	1,594	66	103	383	843	161	10	28	....	Mississippi	68	2	1	1		20	43	
Indiana.....	599	26	32	154	110	174	18	81		WEST SOUTH CENTRAL...	1,102	1		324	76	563	30	83
Illinois.....	1,633	283	78	342	387	451	22	85		Arkansas	75			25	24		11	
Michigan.....	681	24		178	248	195	21	20		Louisiana	158		53	85	18		2	
Wisconsin.....	475	39	4	87	230	82	28	5		Oklahoma	255		38	16	152	12	9	
WEST NORTH CENTRAL...	2,572	120	53	692	490	1,000	24	160	8	Texas	614	1	208	60	302		40	
Minnesota.....	482	64	7	239	108	55	5	4		MOUNTAIN...	636	4		534	10	70	9	....
Iowa.....	405	6		83	42	204	2	65		Montana	94			88	6			
Missouri.....	1,062	55	34	176	243	514	1	84		Idaho	44		37		7			
North Dakota.....	64			27	9	23	5			Wyoming	26		14	12				
South Dakota.....	57	1		12		15	5	24		Colorado	252		212	4	27	9		
Nebraska.....	299		12	101	78	98	1	8		New Mexico	12		10		2			
Kansas.....	203	3		51	10	100	5	34		Arizona	79		53		20			
SOUTH ATLANTIC...	1,494	32	30	730	119	279	90	208	8	Utah and Nevada...	129		4	120		5		
Delaware.....	23	18			5					PACIFIC...	2,331	117	22	1,991	21	148	21	11
Maryland.....	441			407	28	6				Washington	437	26	5	408				
										Oregon	207	21	179	5		2		
										California	1,687	70	17	1,408	21	143	21	9

## DYEING AND CLEANING.

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TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, BY DIVISIONS AND STATES: 1919.

DIVISION AND STATE.	TOTAL.	ESTABLISHMENTS EMPLOYING—											
		No wage earners.	1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		Over 100 wage earners.		
		Establishments.	Wage earners, (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.		
UNITED STATES.....	2,156	18,807	113	1,171	3,107	704	7,358	125	4,227	34	2,202	9	1,793
NEW ENGLAND.....	102	1,185	5	50	142	33	304	10	330	3	173	1	176
Maine.....	12	94	1	5	9	5	38	1	47	.....	.....	.....	.....
New Hampshire.....	8	46	4	4	10	4	36	.....	.....	.....	.....	.....	.....
Vermont.....	6	16	1	5	16	.....	.....	.....	.....	.....	.....	.....	.....
Massachusetts.....	45	723	3	19	54	13	170	7	202	2	121	1	176
Rhode Island.....	7	121	4	4	20	1	20	2	81	.....	.....	.....	.....
Connecticut.....	24	185	.....	13	33	10	100	.....	.....	1	52	.....	.....
MIDDLE ATLANTIC.....	340	3,568	19	172	449	109	1,234	32	997	5	337	3	551
New York.....	159	1,703	13	74	175	49	582	19	572	2	113	2	351
New Jersey.....	39	455	1	20	63	11	127	6	199	1	66	.....	.....
Pennsylvania.....	142	1,320	5	78	211	49	625	7	226	2	168	1	200
EAST NORTH CENTRAL.....	548	4,982	32	273	755	193	2,009	36	1,083	12	780	2	356
Ohio.....	173	1,594	14	92	249	54	536	8	269	3	185	2	355
Indiana.....	101	599	5	67	176	24	244	4	120	1	60	.....	.....
Illinois.....	150	1,633	9	62	185	68	735	16	450	4	263	.....	.....
Michigan.....	73	681	4	29	90	34	340	4	132	2	119	.....	.....
Wisconsin.....	42	475	.....	23	56	13	154	4	112	2	153	.....	.....
WEST NORTH CENTRAL.....	371	2,572	20	236	650	96	932	12	370	7	425	1	186
Minnesota.....	46	482	1	22	60	19	198	1	31	3	187	.....	.....
Iowa.....	70	405	2	46	114	19	197	3	94	.....	.....	.....	.....
Missouri.....	125	1,062	6	79	222	30	304	6	181	3	169	1	180
North Dakota.....	14	64	2	9	31	3	33	.....	.....	.....	.....	.....	.....
South Dakota.....	15	57	.....	12	30	3	27	.....	.....	.....	.....	.....	.....
Nebraska.....	41	299	1	20	89	8	68	2	73	1	69	.....	.....
Kansas.....	60	203	8	39	98	13	105	.....	.....	.....	.....	.....	.....
SOUTH ATLANTIC.....	146	1,494	5	71	200	58	550	11	688	1	56	.....	.....
Delaware.....	3	23	.....	2	10	1	13	.....	.....	.....	.....	.....	.....
Maryland.....	9	441	.....	2	5	6	57	1	370	1	56	.....	.....
District of Columbia.....	6	94	.....	3	13	2	25	.....	.....	.....	.....	.....	.....
Virginia.....	30	281	.....	9	25	18	175	3	81	.....	.....	.....	.....
West Virginia.....	37	232	3	20	53	12	108	2	71	.....	.....	.....	.....
North Carolina.....	21	151	.....	14	38	5	42	2	71	.....	.....	.....	.....
South Carolina.....	18	77	1	13	30	3	25	1	22	.....	.....	.....	.....
Georgia.....	12	129	.....	5	14	5	51	2	64	.....	.....	.....	.....
Florida.....	10	66	1	8	12	6	54	.....	.....	.....	.....	.....	.....
EAST SOUTH CENTRAL.....	124	937	1	80	201	35	872	6	169	2	195	.....	.....
Kentucky.....	41	259	.....	30	73	10	88	5	142	1	98	.....	.....
Tennessee.....	32	390	.....	18	58	8	93	5	142	1	97	.....	.....
Alabama.....	27	220	1	10	28	15	165	1	27	.....	.....	.....	.....
Mississippi.....	24	68	.....	22	42	2	26	.....	.....	.....	.....	.....	.....
WEST SOUTH CENTRAL.....	183	1,102	7	112	296	58	605	5	146	1	55	.....	.....
Arkansas.....	10	75	.....	3	7	7	68	.....	.....	.....	.....	.....	.....
Louisiana.....	26	158	1	16	38	7	77	2	43	.....	.....	.....	.....
Oklahoma.....	50	255	4	33	107	12	110	1	38	.....	.....	.....	.....
Texas.....	97	614	2	60	144	32	350	2	65	1	55	.....	.....
MOUNTAIN.....	113	636	8	62	169	40	306	3	101	.....	.....	.....	.....
Montana.....	23	94	1	16	42	6	52	.....	.....	.....	.....	.....	.....
Idaho.....	4	44	.....	3	11	1	33	.....	.....	.....	.....	.....	.....
Wyoming.....	12	26	3	8	20	1	6	.....	.....	.....	.....	.....	.....
Colorado.....	42	252	3	18	46	20	180	1	26	.....	.....	.....	.....
New Mexico.....	4	12	.....	4	12	.....	.....	.....	.....	.....	.....	.....	.....
Arizona.....	15	79	7	22	8	57	.....	.....	.....	.....	.....	.....	.....
Utah and Nevada.....	13	129	1	6	16	4	38	2	75	.....	.....	.....	.....
PACIFIC.....	229	2,331	16	115	305	83	926	10	384	3	241	2	525
Washington.....	40	437	4	24	69	14	157	3	119	1	92	.....	.....
Oregon.....	23	207	.....	15	34	6	64	1	38	1	71	.....	.....
California.....	160	1,087	12	76	202	63	705	6	177	1	78	2	525

TABLE 7.—SIZE OF ESTABLISHMENTS, BY AMOUNT RECEIVED FOR WORK DONE: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	Number of establishments.	Average number of wage earners.	Amount received for work done.	PER CENT DISTRIBUTION.		
				Number of establishments.	Average number of wage earners.	Amount received for work done.
All classes.....	2,156	18,807	\$54,421,305	100.0	100.0	100.0
Less than \$5,000.....	408	399	1,238,563	13.9	2.1	2.3
\$5,000 to \$20,000.....	1,014	3,904	11,272,973	47.0	20.8	20.7
\$20,000 to \$100,000.....	661	9,141	27,136,718	30.7	48.6	49.9
\$100,000 to \$500,000.....	69	4,421	12,098,790	3.2	23.5	22.2
\$500,000 and over.....	4	942	2,683,261	0.2	5.0	4.9

## MANUFACTURES.

TABLE 8.—CHARACTER OF OWNERSHIP, BY DIVISIONS AND STATES: 1919.

DIVISION AND STATE.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.						AMOUNT RECEIVED FOR WORK DONE.								
				In establishments owned by—			Per cent of total.			Total.			In establishments owned by—			Per cent of total.		
	Individuals.	Corporations.	All others.	Total.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	Total.	Individuals.	Corporations.	All others.	Individuals.	Corporations.	All others.	
UNITED STATES.....	1,230	432	494	18,807	6,448	9,782	2,577	34.3	52.0	13.7	\$54,421,305	\$18,630,034	\$27,393,531	\$8,388,740	34.2	50.3	15.4	
NEW ENGLAND.....	50	30	22	1,185	277	772	130	23.4	65.1	11.5	3,691,562	850,557	2,370,814	451,891	23.3	64.5	12.2	
Maine.....	8	8	1	94	134	60	.....	.....	.....	.....	241,071	110,724	130,947	.....	.....	54.2	.....	
New Hampshire.....	5	3	3	46	36	.....	10	78.3	.....	21.7	111,359	75,141	.....	38,218	87.5	.....	32.5	
Vermont.....	3	1	2	16	.....	2	16	.....	.....	.....	42,883	.....	.....	242,883	.....	.....	.....	
Massachusetts.....	20	16	9	723	104	566	53	14.4	78.3	7.3	2,252,321	343,707	1,721,030	187,584	15.3	76.4	8.3	
Rhode Island.....	4	2	1	121	63	158	.....	52.1	.....	.....	388,039	158,752	1,229,887	.....	40.8	.....	.....	
Connecticut.....	10	8	6	185	41	105	39	22.2	66.8	21.1	654,680	177,023	337,913	139,763	27.0	51.6	21.3	
MIDDLE ATLANTIC.....	183	84	73	3,568	1,063	2,029	476	29.8	56.9	13.3	11,248,444	3,310,577	6,385,195	1,552,072	29.4	56.8	13.8	
New York.....	76	48	35	1,793	499	1,127	197	26.2	62.9	11.0	5,056,122	1,538,567	3,085,068	731,587	25.8	61.9	12.3	
New Jersey.....	24	11	4	455	207	232	16	45.5	51.0	3.5	1,408,447	596,047	773,257	39,143	42.3	54.9	2.8	
Pennsylvania.....	83	25	34	1,320	387	670	263	29.3	50.8	19.9	3,883,875	1,175,903	1,925,970	781,942	30.3	49.0	20.1	
EAST NORTH CENTRAL.....	304	140	104	4,982	1,638	2,786	558	32.9	55.9	11.2	14,057,484	4,868,209	8,272,904	1,810,311	32.5	55.3	12.1	
Ohio.....	91	45	37	1,594	351	1,059	184	22.0	66.4	11.5	4,657,055	1,031,003	3,030,009	595,023	22.1	65.1	12.8	
Indiana.....	63	19	19	599	281	249	69	40.9	41.0	11.5	1,588,752	714,039	645,236	229,477	44.9	40.6	14.4	
Illinois.....	80	54	25	1,633	505	979	149	30.9	60.0	9.1	5,298,936	1,638,486	3,137,710	522,739	30.9	59.2	9.9	
Michigan.....	48	11	16	681	415	178	93	60.9	25.4	18.7	2,043,559	1,245,216	487,379	310,964	60.9	23.8	15.2	
Wisconsin.....	24	11	7	475	86	326	63	18.1	68.6	13.3	1,309,183	239,405	971,670	158,108	17.5	71.0	11.6	
WEST NORTH CENTRAL.....	221	62	88	2,572	938	1,263	371	36.5	49.1	14.4	7,502,206	2,830,919	3,481,706	1,183,041	37.8	46.4	15.8	
Minnesota.....	26	10	10	482	107	199	116	34.6	41.3	24.1	1,308,915	481,080	609,535	278,201	35.1	44.5	20.3	
Iowa.....	41	13	16	405	203	160	42	50.1	39.5	10.4	1,333,047	655,882	477,737	199,428	49.2	35.8	15.0	
Missouri.....	71	30	24	1,032	253	730	79	23.8	68.7	7.4	2,827,087	758,656	1,813,089	255,342	26.8	64.1	9.0	
North Dakota.....	9	.....	5	64	30	.....	34	46.9	.....	53.1	201,086	101,446	99,640	50.4	.....	49.0	.....	
South Dakota.....	9	1	5	57	41	.....	316	71.9	.....	.....	178,570	130,888	33,539	37,282	73.3	34.4	50.7	
Nebraska.....	26	7	8	289	109	163	27	30.5	54.5	9.0	983,987	558,168	344,987	80,555	30.8	.....	8.9	
Kansas.....	39	1	20	203	135	.....	368	60.5	.....	.....	608,974	370,410	129,606	1,37,168	77.7	22.3	.....	
SOUTH ATLANTIC.....	90	32	24	1,404	554	807	133	37.1	54.0	8.9	3,543,316	1,240,214	1,914,302	379,710	35.3	54.0	10.7	
Delaware.....	1	2	.....	23	.....	423	.....	7.0	92.1	.....	73,834	.....	473,834	.....	.....	.....	.....	
Maryland.....	5	4	.....	441	35	406	.....	.....	.....	.....	1,011,843	104,109	907,734	.....	10.3	89.7	.....	
District of Columbia.....	6	.....	.....	94	94	.....	.....	100.0	.....	.....	230,701	.....	.....	100.0	.....	.....	.....	
Virginia.....	17	10	3	281	108	150	28	38.4	53.4	8.2	698,898	233,389	400,314	65,195	33.4	57.8	9.3	
West Virginia.....	23	8	6	232	84	118	30	36.2	50.9	12.9	500,139	185,129	272,574	102,436	33.1	48.7	18.3	
North Carolina.....	10	3	8	151	50	74	27	33.1	49.0	17.9	321,580	107,450	145,183	68,953	33.4	45.1	21.4	
South Carolina.....	13	2	3	77	51	126	.....	66.2	.....	.....	152,453	76,738	172,720	52.3	.....	.....	.....	
Georgia.....	8	1	3	129	73	73	56	50.6	.....	.....	320,963	100,854	100,109	50.1	.....	.....	.....	
Florida.....	7	2	1	66	54	12	81.3	58.2	.....	.....	129,606	1,37,168	77.7	22.3	.....	.....	.....	
EAST SOUTH CENTRAL.....	60	28	27	927	277	488	172	20.6	52.1	18.4	2,230,520	631,786	1,182,205	416,520	28.3	53.0	18.7	
Kentucky.....	24	9	8	259	75	154	30	29.0	59.5	11.6	720,341	204,792	422,896	92,653	28.4	58.7	12.9	
Tennessee.....	12	13	7	390	74	248	68	19.0	63.6	17.4	894,743	179,908	558,566	153,289	20.1	62.2	17.7	
Alabama.....	15	5	7	220	90	70	60	40.9	31.8	27.3	487,203	182,243	171,143	133,907	37.4	35.1	27.5	
Mississippi.....	18	1	5	68	38	.....	30	55.9	.....	.....	123,143	64,843	.....	30,300	50.6	.....	.....	
WEST SOUTH CENTRAL.....	108	20	55	1,102	581	238	283	52.7	21.6	25.7	3,356,370	1,605,847	639,626	1,020,906	50.5	10.1	30.4	
Arkansas.....	4	1	5	75	29	50	46	38.7	.....	.....	215,912	77,643	1,266,915	138,269	36.0	.....	.....	
Louisiana.....	17	7	2	153	50	108	31.6	.....	.....	.....	384,776	117,801	482,842	361,850	30.6	.....	.....	
Oklahoma.....	31	2	17	255	156	99	44	61.2	40.5	17.5	844,692	482,842	1,017,501	384,102	57.2	20.1	26.7	
Texas.....	56	10	31	614	346	130	138	56.4	21.2	22.5	1,910,900	1,910,900	500,395	1,020,906	53.2	20.1	26.7	
MOUNTAIN.....	71	7	35	636	323	205	103	51.6	32.2	16.2	1,847,235	995,603	543,683	307,859	53.9	20.4	16.7	
Montana.....	16	2	5	94	61	.....	33	64.9	.....	.....	312,189	200,949	.....	111,240	64.4	.....	35.6	
Idaho.....	2	2	2	44	144	.....	39	65.4	.....	.....	130,507	130,507	.....	.....	.....	.....	.....	
Wyoming.....	9	1	2	26	17	44	44	39	78.3	11.6	110,866	80,780	20,873	29,580	73.2	40.6	15.6	
Colorado.....	23	1	19	252	106	102	44	42.1	40.5	17.5	763,058	330,914	305,434	110,710	43.9	40.6	15.6	
New Mexico.....	3	1	1	12	12	12	.....	.....	.....	.....	20,873	129,873	171,507	20,050	.....	.....	.....	
Arizona.....	11	1	3	79	57	22	72.2	72.2	61.2	6.2	200,055	139,966	119,630	171,507	38.4	55.1	6.4	
Utah and Nevada.....	7	3	3	129	42	79	8	32.6	61.2	6.2	311,187	119,630	171,507	20,050	38.4	55.1	6.4	
PACIFIC.....	134	29	66	2,331	792	1,194	345	34.0	51.2	14.8	6,044,099	2,190,932	2,593,946	1,259,221	36.2	42.9	20.8	
Washington.....	25	8	13	437	94	260	74	21.5	61.6	16.9	1,127,628	301,888	603,019	222,071	26.8	53.5	19.7	
Oregon.....	9	7	7	207	34	142	31	16.4	68.6	15.0	534,282	119,939	315,275	99,008	22.4	59.0	18.5	
California.....	100	14	46	1,087	604	783	240	39.4	40.4	14.2	4,382,283	1,769,155	1,675,652	937,482	40.4	38.2	21.4	

<sup>1</sup> Includes the group "All others."<sup>2</sup> Includes the groups "Individuals" and "Corporations."<sup>3</sup> Includes the group "Corporations."<sup>4</sup> Includes the group "Individuals."

## DYEING AND CLEANING.

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TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920):<sup>1</sup> 1919.

STATE AND CITY.	Number of establish-ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Pri-mary horse-power.
		Total.	Propri-e-tors and firm members.	Salaried employees.	Wage earners (average number).						
ALABAMA.....	27	282	29	33	220	\$210,717	\$47,126	\$158,458	\$115,201	\$487,203	219
Birmingham.....	10	113	10	12	91	84,949	18,390	69,824	42,532	224,328	117
Montgomery.....	3	72	4	17	51	20,484	10,580	33,711	30,227	116,940	25
ARIZONA.....	15	104	17	8	79	60,091	7,138	95,017	32,978	200,055	69
Phoenix.....	8	63	11	5	47	25,331	4,488	55,647	15,004	112,600	26
ARKANSAS.....	10	101	12	14	75	71,641	17,131	66,635	42,144	215,912	120
Little Rock.....	6	64	7	7	50	43,973	9,305	49,201	34,564	163,269	103
CALIFORNIA.....	160	2,123	205	231	1,087	2,025,673	336,454	1,618,999	709,908	4,382,289	1,697
Los Angeles.....	34	787	34	625	649,253	176,480	571,501	309,217	1,489,377	450	
San Francisco.....	11	481	9	45	427	626,431	79,354	299,107	137,226	1,094,573	510
Oakland.....	9	133	10	12	111	58,682	21,174	130,436	42,878	263,967	85
San Jose.....	5	75	8	10	57	59,510	15,303	97,613	19,732	160,138	45
Sacramento.....	13	59	18	2	39	54,854	1,716	47,291	29,944	144,089	63
Berkeley.....	3	85	3	10	72	76,852	9,120	84,194	15,080	142,988	36
San Diego.....	13	83	8	5	70	59,700	6,115	57,253	27,480	127,180	108
Fresno.....	4	47	6	7	34	39,935	15,749	32,184	20,293	100,649	20
COLORADO.....	42	346	43	51	252	414,500	68,833	255,400	138,819	753,058	313
Denver.....	17	202	11	35	156	235,214	50,557	103,540	84,509	407,903	174
CONNECTICUT.....	24	261	24	52	185	304,256	76,105	210,956	111,512	654,689	242
Hartford.....	6	131	7	26	98	198,916	39,598	110,416	49,918	304,844	66
FLORIDA.....	10	88	9	13	66	86,273	14,037	52,536	39,185	106,834	58
Jacksonville.....	5	62	6	8	48	58,140	8,240	35,360	23,988	115,240	34
GEORGIA.....	12	180	3	37	129	129,541	32,022	92,775	90,559	320,983	187
Atlanta.....	7	137	8	28	101	109,439	26,282	74,937	78,841	283,720	162
ILLINOIS.....	159	2,119	138	363	1,633	2,601,188	612,619	1,809,096	1,249,960	5,298,935	2,105
Chicago.....	80	1,403	52	265	1,156	1,766,311	488,363	1,372,340	927,452	3,915,399	1,325
Rock Island.....	3	67	—	21	46	88,110	30,880	47,127	21,359	135,934	61
Rockford.....	5	44	3	8	33	50,980	15,791	32,922	16,689	120,755	57
Springfield.....	4	82	3	15	64	89,924	22,484	49,980	14,303	120,591	105
INDIANA.....	101	825	106	120	599	790,474	138,315	514,916	390,055	1,588,752	1,024
Indianapolis.....	18	279	14	44	221	209,278	68,474	161,319	109,576	489,659	268
Terre Haute.....	5	84	4	28	52	149,743	27,215	38,813	58,744	100,412	210
Fort Wayne.....	5	54	4	11	39	27,088	17,057	42,808	20,768	105,004	44
IOWA.....	70	584	76	103	405	679,719	127,310	422,751	253,684	1,333,047	523
Sioux City.....	8	95	10	20	65	62,201	20,380	91,990	55,710	280,866	—
Des Moines.....	6	115	2	29	84	129,164	19,678	80,811	48,405	233,121	73
Waterloo.....	5	81	3	12	66	66,358	16,640	61,573	21,667	145,405	—
KENTUCKY.....	41	360	40	61	259	343,830	77,180	192,690	152,731	720,341	347
Louisville.....	12	223	10	49	184	220,067	73,330	109,038	91,879	484,445	202
LOUISIANA.....	26	220	23	39	158	187,980	61,613	113,801	80,375	384,776	240
New Orleans.....	16	153	16	30	107	99,782	32,800	61,866	39,159	235,688	166
MAINE.....	12	126	10	22	94	131,883	24,567	87,054	43,905	241,671	112
Portland.....	3	79	1	16	62	77,757	10,487	53,785	24,347	134,947	28
MARYLAND.....	9	598	7	150	441	1,072,586	153,003	249,701	154,711	1,011,843	721
Cumberland.....	3	524	2	130	392	1,020,987	133,855	202,940	131,210	870,653	612
Baltimore.....	5	63	5	18	40	41,309	17,505	41,184	20,053	123,551	43
MASSACHUSETTS.....	45	894	38	133	723	806,211	185,412	671,117	584,673	2,252,321	1,063
Watertown.....	3	261	2	31	218	124,621	51,616	109,025	184,492	761,046	229
Boston.....	9	218	1	34	183	164,257	44,785	186,933	89,993	477,394	233
MICHIGAN.....	73	895	79	135	681	1,240,651	164,490	792,808	445,640	2,043,559	714
Detroit.....	22	412	16	14	382	774,320	100,818	483,465	282,504	1,180,979	368
Flint.....	4	42	5	2	35	99,612	4,056	49,330	22,570	107,587	40
MINNESOTA.....	46	829	48	99	482	739,244	126,330	488,498	271,705	1,368,915	593
Minneapolis.....	17	317	19	44	254	379,039	54,730	259,168	135,608	704,556	321
St. Paul.....	9	160	9	34	117	149,308	47,269	117,777	84,187	350,088	160
Duluth.....	5	74	2	14	58	111,023	19,423	55,491	17,742	106,507	65
MISSOURI.....	125	1,414	124	228	1,062	1,281,853	359,455	890,098	650,708	2,827,687	1,292
St. Louis.....	36	808	24	171	673	758,528	283,379	505,698	378,080	1,069,507	716
Kansas City.....	40	806	45	28	233	308,182	52,896	253,389	159,128	693,507	328
Joplin.....	8	49	5	7	37	53,269	7,921	38,442	17,222	106,605	85
NEBRASKA.....	41	415	43	73	299	898,613	111,472	289,080	219,597	983,987	408
Omaha.....	15	238	11	41	186	475,824	70,034	184,166	140,179	613,051	221
Lincoln.....	5	79	6	23	50	58,234	84,349	48,998	36,015	161,374	63
NEW JERSEY.....	39	536	34	47	455	559,997	87,646	549,119	369,990	1,408,447	608
Newark.....	5	88	3	8	77	111,906	16,281	133,402	161,397	387,050	98
Jersey City.....	5	69	6	11	52	85,828	27,190	52,357	22,482	165,104	46
NEW YORK.....	159	2,428	150	485	1,793	3,311,500	656,964	1,964,813	1,347,027	5,956,122	1,617
New York.....	60	1,640	33	377	1,230	1,899,545	492,864	1,394,043	798,087	4,081,287	833
Buffalo.....	20	234	20	44	170	402,046	48,014	178,830	195,458	546,270	206
Rochester.....	8	94	9	15	70	198,217	17,695	77,429	66,070	256,790	40
Syracuse.....	8	87	9	11	67	86,950	10,874	59,877	33,530	154,759	107

<sup>1</sup> Cities with 3 establishments and income of \$100,000 for work done.

## MANUFACTURES.

TABLE 9.—STATISTICS FOR CITIES OF 10,000 INHABITANTS OR MORE (CENSUS OF 1920).<sup>1</sup> 1919—Continued.

STATE AND CITY.	Number of establish-ments.	PERSONS ENGAGED IN THE INDUSTRY.				Capital.	Salaries.	Wages.	Cost of materials.	Amount received for work done.	Pri-mary horse-power.
		Total.	Propri- tors and firm members.	Salaried employees.	Wage earners (average number).						
OHIO.....	173	2,113	165	354	1,594	\$2,630,374	\$483,306	\$1,528,284	\$803,346	\$4,657,055	2,714
Cleveland.....	25	564	15	84	465	571,331	137,063	485,801	208,609	1,290,470	632
Cincinnati.....	8	422	3	111	308	602,176	129,166	225,072	136,992	880,054	409
Akron.....	12	156	10	19	127	303,557	61,044	145,537	63,019	381,252	218
Columbus.....	12	182	6	49	127	176,125	48,173	85,951	64,544	341,555	105
Toledo.....	13	123	12	20	91	132,217	32,805	95,811	45,176	301,812	113
Dayton.....	9	67	8	15	44	90,946	15,911	47,805	37,085	166,557	104
Youngstown.....	5	60	3	16	41	52,973	23,883	58,236	22,175	145,719	88
OKLAHOMA.....	50	363	73	35	255	425,037	43,129	298,423	152,201	844,692	259
Tulsa.....	6	100	9	18	73	71,214	26,880	80,943	35,709	230,671	49
Oklahoma City.....	5	51	15	3	33	76,766	4,580	40,322	16,187	125,397	32
OREGON.....	23	274	24	43	207	187,110	37,740	204,799	120,459	534,282	198
Portland.....	12	233	11	40	182	154,729	47,065	180,829	106,985	451,028	139
PENNSYLVANIA.....	142	1,782	165	297	1,320	2,711,626	401,361	1,200,980	1,052,188	3,883,875	1,097
Philadelphia.....	33	605	43	112	450	1,067,955	130,527	411,474	457,496	1,348,872	549
Pittsburgh.....	10	448	8	83	357	616,058	106,910	337,225	257,161	1,073,393	504
RHODE ISLAND.....	7	174	7	46	121	226,928	58,883	90,984	61,238	388,039	132
Providence.....	3	91	3	30	58	157,379	46,013	58,184	31,317	229,887	87
TENNESSEE.....	32	511	27	94	390	450,607	117,460	284,863	178,919	894,743	485
Memphis.....	8	281	6	53	222	267,024	57,998	162,454	86,289	404,952	220
Chattanooga.....	6	86	2	22	62	65,428	33,964	48,903	27,117	181,580	100
Nashville.....	5	62	2	7	53	44,193	12,642	22,290	31,125	105,384	60
TEXAS.....	97	838	125	99	614	914,340	143,036	640,298	339,770	1,910,999	798
Dallas.....	15	198	11	37	150	280,401	66,584	172,896	77,992	496,499	134
Fort Worth.....	11	140	17	13	116	190,140	44,408	101,413	57,502	329,800	88
Wichita Falls.....	7	64	13	5	46	63,942	6,850	69,174	32,816	226,305	24
Houston.....	10	101	11	13	77	65,825	14,840	69,366	32,861	196,717	252
El Paso.....	9	71	14	11	46	41,905	17,385	39,981	21,095	141,409	33
San Antonio.....	6	53	8	6	39	58,831	7,502	30,427	13,743	100,717	48
UTAH AND NEVADA.....	13	179	14	36	120	189,243	47,267	122,307	67,700	311,187	115
Salt Lake City.....	9	162	10	34	118	176,483	44,867	106,007	60,568	275,147	95
VIRGINIA.....	30	371	23	67	281	426,901	58,041	222,528	138,208	608,898	406
Richmond.....	12	106	13	12	81	156,917	18,288	74,093	45,364	215,669	120
Norfolk.....	3	56	2	19	35	39,310	22,334	22,441	14,234	112,113	74
Roanoke.....	5	66	2	13	51	69,606	12,924	30,602	17,077	108,073	70
WASHINGTON.....	46	549	54	58	437	445,964	107,150	480,233	210,680	1,127,528	395
Seattle.....	12	292	10	42	240	239,833	80,871	280,120	84,565	567,406	101
Spokane.....	5	94	3	6	85	73,009	9,712	82,900	52,452	200,909	41
Tacoma.....	4	43	8	3	32	21,815	8,148	26,848	28,463	110,514	38
WEST VIRGINIA.....	37	295	36	27	232	357,443	45,307	106,194	105,034	560,139	241
Clarksburg.....	7	61	9	3	49	67,323	11,040	49,501	24,752	151,951	41
Huntington.....	3	64	2	9	53	46,074	15,150	36,984	18,438	109,537	21
WISCONSIN.....	42	632	39	118	475	579,471	152,182	407,073	361,122	1,369,183	561
Milwaukee.....	11	382	2	79	301	301,637	112,870	283,563	239,293	909,929	309

<sup>1</sup> Cities with 3 establishments and income of \$100,000 for work done.

TABLE 10.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919.

Number of engines or motors.	HORSEPOWER.			Number of engines or motors.	HORSEPOWER.			
	Amount.	Per cent distribution.			Amount.	Per cent distribution.		
		Primary power—Continued.	Electric.			Generated by establishments reporting.		
Primary power, total.....	3,379	23,946	100.0	Rented.....	2,852	15,061	62.9	
Owned.....	527	8,885	37.1	Electric.....	2,852	14,902	62.2	
Steam <sup>1</sup> .....	394	7,429	31.0	Other.....	159		0.7	
Internal-combustion engines.....	181	1,450	6.1					
Water motors.....	2	6	(2)					
				3,141	16,593	100.0		
				2,852	14,902	89.8		
				289	1,691	10.2		

<sup>1</sup> Includes 36 of 579 horsepower reported as steam turbines.<sup>2</sup> Less than one-tenth of 1 per cent.

## DYEING AND CLEANING.

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TABLE 11.—FUEL CONSUMED, BY DIVISIONS AND STATES: 1919.

DIVISION AND STATE.	COAL.			Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).	DIVISION AND STATE.	COAL.			Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
	Anthra-cite <sup>1</sup> (ton, 2,240 pounds).	Bitumi-nous (ton, 2,000 pounds).	Coke (ton, 2,000 pounds).				Anthra-cite <sup>1</sup> (ton, 2,240 pounds).	Bitumi-nous (ton, 2,000 pounds).	Coke (ton, 2,000 pounds).		
UNITED STATES....	24,954	131,102	3,451	40,451	32,024	321,981	SOUTH ATLANTIC—Con.				
NEW ENGLAND.....	2,360	8,544	261	216	1,318	4,131	District of Columbia.....	130	153		960
Maine.....	825	670	40	4	203	560	Virginia.....	20	2,408	674	200
New Hampshire.....	12	391				62	West Virginia.....		282	30	684
Vermont.....	118	56				6	North Carolina.....		1,317	25	152
Massachusetts.....	74	5,751	221	122	682	1,614	South Carolina.....		494		750
Rhode Island.....	852	431				116	Georgia.....		2,153	18	6
Connecticut.....	470	1,225			90	1,773	Florida.....		270	134	57
MIDDLE ATLANTIC.....	18,586	12,663	1,277	192	2,411	20,529	EAST SOUTH CENTRAL.....	20	7,739	340	11
New York.....	11,505	5,338	859	114	1,230	13,020	Kentucky.....		2,718		853
New Jersey.....	2,139	989	82		42	2,711	Tennessee.....		3,351	54	26,782
Pennsylvania.....	4,942	6,358	336		78	1,139	Alabama.....	15	1,342	258	44
EAST NORTH CENTRAL.....	2,274	52,693	673	228	9,201	4,798	Mississippi.....	5	328	28	193
Ohio.....	269	13,753	143	115	2,929	64,164	WEST SOUTH CENTRAL.....	651	3,682	94	562
Indiana.....		6,786	22	12	1,198	7,310	Arkansas.....		20	81	1,314
Illinois.....	1,109	18,139	19	101	1,304	11,349	Louisiana.....		801	18	1,479
Michigan.....	66	7,160	340		3,758	5,047	Oklahoma.....	150	229	17	2,846
Wisconsin.....	830	6,895	143		12	1,897	Texas.....	481	2,571	76	12,180
WEST NORTH CENTRAL.....	854	25,847	477	755	5,391	34,164	MOUNTAIN.....	25	7,577	27	1,090
Minnesota.....	350	4,657	29	70	1,877	1,703	Montana.....		1,147		30,355
Iowa.....	113	5,539		464	1,525	3,982	Idaho.....		240		43
Missouri.....	278	9,738	128	178	1,482	10,964	Wyoming.....		215		140
North Dakota.....	90	604	308		76	326	Colorado.....		4,648	24	2,005
South Dakota.....		584			77	762	New Mexico.....		122	10	24
Nebraska.....	23	3,017	14	32	829	7,154	Arizona.....	25	223	1	2,038
Kansas.....		1,708			25	9,273	Utah and Nevada.....		975	2	300
SOUTH ATLANTIC.....	166	10,818	177	732	2,425	35,765	PACIFIC.....	18	1,539	125	1,170
Delaware.....	6	160			300		Washington.....	12	1,225	327	2,365
Maryland.....	10	3,591			15	318	Oregon.....		20	2,246	2,217
							California.....	6	288	34,813	6,558
											19,689

111367-23-67

## MANUFACTURES.

TABLE 12.—DETAILED STATEMENT,

DIVISION AND STATE.	Number of establish- ments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				EXPENSES Salaries and wages. Capital.		
		Total.	Propri- etors and firm mem- bers.	Sala- ried offi- cers, super- in- tend- ents, and man- agers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.	Aver- age num- ber.	Number, 15th day of—		Male.	Female.	Male.	Female.		
UNITED STATES.....	2,156	24,934	2,285	1,272	619	1,951	18,807	Oc 20,156	Ja 16,750	19,101	10,841	8,181	107	22	\$28,734,049 \$3,039,187
NEW ENGLAND.....	102	1,642	100	71	19	167	1,185	Oc 1,304	Ja 989	1,180	708	462	12	6	1,670,321 196,935
Maine.....	12	126	10	8	.....	14	94	Oc 1,103	Ja 80	94	51	43	.....	.....	13,500
New Hampshire.....	8	62	13	.....	1	2	46	Oc 1,49	Ja 43	46	29	17	.....	.....	24,923
Vermont.....	6	25	8	.....	.....	1	16	Oc 1,18	Ja 14	17	10	7	.....	.....	26,120
Massachusetts.....	45	894	38	31	10	92	723	Oc 805	Ja 585	738	415	309	8	6	896,211 97,417
Rhode Island.....	7	174	7	12	5	29	121	Oc 141	Ja 87	107	54	49	4	.....	226,028 36,154
Connecticut.....	24	261	24	20	3	29	185	Oc 191	Ja 175	187	150	37	.....	.....	364,256 49,384
MIDDLE ATLANTIC.....	340	4,746	349	232	135	462	3,568	Oc 3,814	Fe 3,184	3,679	2,164	1,506	8	1	6,583,123 678,253
New York.....	159	2,428	150	123	100	262	1,793	Oc 1,899	Fe 1,611	1,813	1,009	712	2	.....	3,311,500 378,497
New Jersey.....	89	536	34	28	3	18	455	No 475	Fe 423	278	608	186	.....	.....	559,997 68,347
Pennsylvania.....	142	1,782	165	83	32	182	1,320	Oc 1,448	Fe 1,150	1,402	787	608	6	1	2,711,626 231,409
EAST NORTH CENTRAL.....	548	6,584	522	374	123	583	4,082	Oc 5,209	Jn 4,378	5,055	2,801	2,189	18	7	7,842,156 909,483
Ohio.....	173	2,113	165	118	25	211	1,594	Ap 1,717	Ja 1,308	1,582	947	630	5	.....	2,630,374 294,544
Indiana.....	101	825	106	48	14	58	599	Oc 627	Ja 545	817	370	241	4	2	790,474 86,294
Illinois.....	159	2,119	133	142	51	160	1,633	Oc 1,744	Fe 1,472	1,670	982	700	5	3	2,601,186 385,255
Michigan.....	73	895	79	34	14	87	681	Oc 744	Fe 590	697	380	315	2	.....	1,240,651 65,399
Wisconsin.....	42	632	39	32	19	67	475	Oc 490	Fe 464	489	232	253	2	.....	579,471 77,901
WEST NORTH CENTRAL.....	371	3,511	416	175	87	261	2,572	Oc 2,899	Fe 2,202	2,509	1,449	1,044	15	1	3,885,400 429,923
Minnesota.....	46	820	48	33	20	46	482	Oc 526	Fe 417	484	244	240	.....	.....	739,244 71,595
Iowa.....	70	584	76	31	19	53	405	Oc 432	Fe 375	407	240	164	3	1	679,719 60,157
Missouri.....	125	1,414	124	87	87	104	1,062	Oc 1,243	Fe 887	1,009	549	451	8	1	1,281,853 232,614
North Dakota.....	14	90	20	.....	1	5	64	Au 85	Ja 44	82	46	38	.....	.....	140,535
South Dakota.....	15	78	19	.....	2	57	57	Se <sup>1</sup> 62	Ja <sup>1</sup> 49	58	38	20	2	.....	95,039 64,153
Nebraska.....	41	415	43	23	9	41	299	Oc 340	Ja 246	317	182	133	2	.....	698,613 250,397
Kansas.....	60	301	86	1	1	10	203	Oc <sup>1</sup> 225	Fe 181	152	150	.....	2	.....	1,404
SOUTH ATLANTIC.....	146	1,950	132	185	40	108	1,494	Mh 1,727	Ja 1,366	1,510	784	732	11	3	2,483,367 204,341
Delaware.....	3	83	1	3	1	5	23	Ap <sup>1</sup> 24	Ja <sup>1</sup> 22	24	20	4	.....	.....	97,632 6,500
Maryland.....	9	508	7	122	10	18	441	Oc 468	Ja 379	117	307	1	.....	1,072,585 128,465	
District of Columbia.....	6	103	6	.....	1	2	94	Se <sup>1</sup> 100	Ja 81	99	60	39	.....	147,450 426,901	
Virginia.....	30	371	23	25	10	32	281	My <sup>1</sup> 287	Fe <sup>1</sup> 275	236	117	111	.....	.....	35,992 357,443
West Virginia.....	37	295	36	14	.....	13	232	De 241	Ja 224	241	130	111	.....	86,952 18,850	
North Carolina.....	21	197	28	7	.....	11	151	Jy 166	Fe 128	153	94	59	1	.....	78,589 11,307
South Carolina.....	18	105	19	4	.....	5	77	Sc <sup>1</sup> 79	Fe <sup>1</sup> 74	78	51	26	1	.....	129,541 6,520
Georgia.....	12	169	3	5	16	16	129	Oc 149	Ja 107	139	50	9	3	.....	86,278 7,280
Florida.....	10	88	9	5	2	6	66	Se <sup>1</sup> 67	Ju <sup>1</sup> 65	66	48	19	.....	.....	.....
EAST SOUTH CENTRAL.....	124	1,258	125	56	40	100	937	Oc 1,007	Ja 772	966	529	414	19	4	1,073,934 164,066
Kentucky.....	41	360	40	16	2	43	259	No 274	Ja 238	268	151	110	3	4	343,830 58,540
Tennessee.....	32	511	27	33	24	37	390	Se <sup>1</sup> 416	Ja 341	380	212	175	3	.....	450,607 77,216
Alabama.....	27	282	29	5	11	17	220	Oc 255	Mh 193	238	123	105	7	.....	218,717 3,400
Mississippi.....	24	105	29	2	3	3	68	Jy <sup>1</sup> 70	Ja 67	70	40	24	6	.....	58,780
WEST SOUTH CENTRAL.....	183	1,522	233	70	47	70	1,102	Oc 1,187	Ja 992	1,167	783	368	16	.....	1,598,978 141,178
Arkansas.....	10	101	12	6	5	3	75	Oo <sup>1</sup> 81	Ja 60	74	52	22	.....	.....	71,641 9,400
Louisiana.....	26	220	23	17	6	19	158	No 161	Au 151	180	101	79	.....	187,960 34,357	
Oklahoma.....	50	363	73	13	3	19	255	Se 284	Ja 223	261	176	83	2	.....	426,037 25,560
Texas.....	97	838	125	34	33	32	614	De 685	Ja 540	652	454	184	14	.....	914,340 71,861
MOUNTAIN.....	113	866	125	31	27	47	636	Se 709	Ja 551	642	351	287	4	.....	938,023 68,510
Montana.....	23	125	27	2	1	1	94	Se 111	Fe 74	107	51	56	.....	.....	170,027 7,200
Idaho.....	4	56	6	1	1	4	44	Au <sup>1</sup> 46	Ja <sup>1</sup> 41	46	26	20	.....	46,610 40,646	
Wyoming.....	12	39	13	.....	20	22	252	Oc 30	Ja 22	25	13	12	.....	414,500 43,674	
Colorado.....	42	346	43	20	9	22	252	Au <sup>1</sup> 277	Ja 217	243	141	100	2	.....	16,306 60,691
New Mexico.....	4	17	5	.....	.....	12	(2)	(2)	12	10	10	.....	.....	189,243 15,636	
Arizona.....	15	104	17	8	16	12	120	Oc <sup>1</sup> 83	Ja 76	88	49	34	.....	.....	.....
Utah and Nevada.....	13	179	14	8	16	12	120	Ja <sup>1</sup> 100	Ja 105	128	61	65	2	.....	.....
PACIFIC.....	229	2,946	283	78	101	163	2,331	Se 2,443	Ja 2,166	2,384	1,201	1,179	4	.....	2,658,747 186,498
Washington.....	46	549	54	23	10	25	437	Se 488	Fe 387	426	238	185	3	.....	445,984 57,575
Oregon.....	23	274	24	18	25	207	Oc 228	Fe 190	224	106	118	.....	.....	187,110 25,620	
California.....	160	2,123	205	37	91	103	1,687	Oc 1,756	Ja 1,586	1,734	857	876	1	.....	2,025,673 103,303

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.

# DYEING AND CLEANING.

1059

BY DIVISIONS AND STATES: 1919.

DIVISION AND STATE.	EXPENSES—continued.						Amount received for work done.	POWER.				Electric horsepower generated in establishments reporting.				
	Salaries and wages—Continued.		Rent and taxes.		For materials.			Primary horsepower.								
	Clerks, etc.	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.	Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power (motors).	Rented. <sup>1</sup>			
UNITED STATES.....	\$2,230,696	18,245,024	\$460,660	\$1,571,262	\$360,117	\$9,801,650	\$1,909,899	\$54,421,305	23,946	6,850	570	1,450	6	15,061	1,091	
NEW ENGLAND.....	150,338	1,118,763	20,713	94,827	76,366	680,013	141,152	3,601,562	1,625	460	22	2	6	1,129	117	
Maine.....	11,067	87,054	1,627	5,270	2,798	30,222	13,683	241,671	112	8	-----	-----	104	-----	-----	
New Hampshire.....	1,946	40,098	829	3,697	496	14,194	5,575	111,359	46	10	-----	-----	36	-----	-----	
Vermont.....	300	12,554	380	2,426	301	6,534	2,534	42,983	30	10	-----	-----	18	-----	-----	
Massachusetts.....	87,995	671,117	15,947	61,577	63,496	505,459	79,214	2,252,321	1,063	370	2	-----	4	687	117	
Rhode Island.....	22,729	90,984	168	2,930	2,913	48,940	12,302	388,639	132	12	2	-----	118	-----	-----	
Connecticut.....	26,301	210,956	1,702	18,918	6,304	83,758	27,754	654,689	242	50	20	-----	106	-----	-----	
MIDDLE ATLANTIC.....	467,718	3,774,912	151,653	275,144	138,645	2,300,363	390,842	11,248,444	3,922	941	127	457	-----	2,307	382	
New York.....	278,487	1,964,813	112,290	150,439	44,794	1,108,686	288,341	5,956,122	1,617	282	70	29	-----	1,230	75	
New Jersey.....	19,290	549,110	22,084	37,875	7,453	323,727	46,203	1,408,447	808	247	25	11	-----	325	-----	
Pennsylvania.....	169,052	1,260,980	17,270	77,830	86,398	306,950	110,238	3,883,875	1,087	412	20	417	-----	842	306	
EAST NORTH CENTRAL.....	641,420	5,051,677	65,133	416,190	174,710	2,781,804	558,225	14,957,484	7,178	2,173	149	500	-----	4,347	627	
Ohio.....	188,792	1,528,284	10,518	106,631	74,411	725,287	168,059	4,657,055	2,714	845	17	472	-----	1,380	832	
Indiana.....	52,021	514,916	8,058	53,117	10,732	331,378	58,677	1,588,752	1,024	273	6	18	-----	727	-----	
Illinois.....	227,304	1,809,096	26,495	149,671	48,318	1,067,657	182,300	2,299,935	2,165	709	111	6	-----	1,339	107	
Michigan.....	99,091	702,308	10,328	67,622	15,089	300,218	85,322	2,043,559	714	145	11	-----	558	8		
Wisconsin.....	74,101	407,073	9,834	39,158	25,560	207,264	63,858	1,360,183	501	201	15	2	-----	343	180	
WEST NORTH CENTRAL.....	309,769	2,430,286	54,106	267,054	57,034	1,206,652	314,003	7,502,206	3,233	895	-----	182	-----	2,156	35	
Minnesota.....	54,735	488,408	20,371	44,281	8,985	210,640	61,116	1,368,916	693	237	-----	-----	356	-----	85	
Iowa.....	67,153	422,751	5,593	57,290	7,973	181,341	72,343	1,333,047	523	172	-----	8	-----	348	-----	
Missouri.....	120,841	800,098	8,985	95,432	23,272	554,824	95,944	2,827,687	1,292	400	-----	158	-----	734	-----	
North Dakota.....	4,683	57,825	5,350	8,994	1,898	32,167	8,785	201,086	77	12	4	-----	61	-----	-----	
South Dakota.....	1,898	65,758	2,996	6,986	1,378	29,662	8,542	178,570	76	-----	2	-----	74	-----	-----	
Nebraska.....	47,319	289,080	8,348	29,468	11,676	177,874	41,728	983,987	408	42	2	-----	384	-----	-----	
Kansas.....	7,240	216,276	2,023	24,805	2,852	113,105	25,350	608,974	204	32	13	-----	219	-----	-----	
SOUTH ATLANTIC.....	97,135	1,002,388	27,552	123,363	56,763	562,008	135,502	3,543,316	1,894	1,084	21	51	-----	738	415	
Delaware.....	5,297	18,813	208	1,110	1,338	16,280	1,688	73,834	31	18	-----	-----	13	-----	-----	
Maryland.....	24,538	249,761	6,134	40,125	16,730	124,981	29,730	1,011,843	721	698	-----	-----	23	-----	412	
District of Columbia.....	3,131	102,001	2,160	2,160	2,484	37,081	7,097	236,761	73	40	14	-----	19	3	-----	
Virginia.....	9,614	222,528	2,642	19,585	6,820	108,807	29,401	693,898	406	136	17	3	-----	250	-----	
West Virginia.....	9,315	190,104	849	23,068	7,787	85,090	20,844	500,139	241	47	21	-----	173	-----	-----	
North Carolina.....	9,106	106,739	5,000	9,648	5,142	62,609	14,050	321,588	130	71	6	-----	53	-----	-----	
South Carolina.....	3,076	49,441	77	5,320	3,041	24,457	5,651	152,458	47	14	5	-----	28	-----	-----	
Georgia.....	25,602	93,775	800	8,041	12,297	69,913	20,646	320,903	137	49	4	2	-----	132	-----	
Florida.....	6,757	52,536	11,882	8,308	1,124	32,790	6,395	166,834	58	11	-----	-----	47	-----	-----	
EAST SOUTH CENTRAL.....	86,554	662,018	4,100	76,803	64,904	391,044	82,423	2,230,520	1,686	534	42	47	-----	1,063	95	
Kentucky.....	18,640	102,690	829	16,407	37,085	129,675	23,156	720,841	347	170	6	-----	171	-----	89	
Tennessee.....	40,244	264,803	105	29,377	20,845	149,346	23,673	894,748	485	203	4	-----	248	-----	-----	
Alabama.....	22,216	185,468	2,741	24,377	4,821	92,273	21,928	487,293	219	122	12	7	78	6	50	
Mississippi.....	5,454	46,007	425	6,702	1,613	18,350	7,706	128,143	835	30	-----	30	-----	568	-----	
WEST SOUTH CENTRAL.....	113,731	1,119,157	49,026	120,166	38,415	403,642	120,848	3,356,379	1,417	194	214	152	-----	867	22	
Arkansas.....	7,731	60,035	1,059	9,733	2,250	34,202	7,042	215,012	120	12	25	12	71	-----	-----	
Louisiana.....	17,256	113,801	440	12,098	3,108	62,732	17,643	384,776	240	44	21	65	110	-----	22	
Oklahoma.....	17,569	289,423	3,472	34,306	3,984	127,543	24,658	844,682	259	27	10	18	209	-----	-----	
Texas.....	71,175	640,208	44,055	64,034	29,035	260,165	70,605	1,910,990	798	111	158	62	407	-----	-----	
MOUNTAIN.....	75,176	632,702	50,131	79,936	12,829	255,518	73,454	1,847,235	701	165	4	-----	532	-----	-----	
Montana.....	2,500	115,490	41,329	17,732	1,968	49,084	9,987	312,189	115	-----	-----	-----	115	-----	-----	
Idaho.....	8,658	48,110	31,618	150	8,412	239	12,413	4,627	130,507	18	-----	-----	-----	49	-----	-----
Wyoming.....	25,150	255,400	8,167	25,612	6,722	103,467	35,352	753,058	313	104	4	-----	205	-----	-----	
Colorado.....	14,760	120	3,120	288	3,080	2,372	20,873	18	-----	-----	-----	18	-----	-----	-----	
New Mexico.....	7,138	65,047	10,213	736	23,389	9,609	200,055	69	115	57	-----	69	-----	-----	-----	
Arizona.....	31,631	122,307	365	11,247	2,558	53,769	8,991	311,187	115	-----	-----	-----	58	-----	-----	
PACIFIC.....	204,846	2,304,031	38,186	117,710	39,482	902,606	174,450	6,044,069	2,290	308	50	-----	1,842	-----	-----	
Washington.....	49,575	480,233	8,273	27,938	9,695	174,220	36,469	1,127,528	395	46	2	-----	347	-----	-----	
Oregon.....	12,120	204,799	565	13,228	2,995	110,522	15,937	534,282	198	53	-----	140	-----	-----	-----	
California.....	233,151	1,618,909	20,343	76,544	26,792	677,864	122,044	4,382,289	1,697	294	48	-----	1,355	-----	-----	

<sup>1</sup> Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).